

Long-term training policy urged for 16-19 group

by Frances Gibb

A comprehensive long-term programme of education and training for the 16 to 19 age group has been called for by the Socialist Educational Association.

In a resolution submitted for the Labour Party conference in October, the association says it is alarmed by the lack of progress in the elimination of class, race or sex discrimination in post-school education and training.

It welcomes the quick implementation of the Holman report, but adds that this was a result of short-term expediency to overcome unemployment, rather than any long-term plan.

A wide-ranging programme for this age group should include: a total review of the financial provision; provision of education, training and careers guidance; every local authority should prepare a plan and make such provision for 16 to 19s and talks with both sides of industry to help in the programme.

The association also calls on the Government to insist that universities, polytechnics and local authorities take immediate action to help the disadvantaged; for instance, by changing admissions criteria to take account of the social and educational background of applicants.

A system of paid educational leave as a right for working people is called for in a resolution tabled by Penttila and the Border Constituency Labour Party.

It also calls on the Government to adjust the grant/fee support system to ensure greater equality

between age groups, giving help to those who have not made use of existing education facilities. Those undertaking retraining should have greater support through the Manpower Services Commission, it says.

Funds should also be provided for the National Advisory Council on adult education.

A third resolution, from West Derbyshire CLP, calls for legislation to permit special funds to be diverted for the education, training and re-training of post-school groups.

Both the Conservatives and Liberal parties are expected to concentrate on schools at their conferences. The Conservatives have now drawn up the final agenda from the list of submitted motions, which is to be published at the end of September. Higher education is not expected to be included.

On the original list, however, there were motions on various higher education issues such as tuition fees and the binary line.

The Liberal Party composite motion on education is also mainly on schools, although it contains a general statement deploring educational cuts. It says also that the current surplus of teachers should be used to improve the overall teacher-pupil ratio.

On the school curriculum, it says that pupils should be prepared for the world of work, and have practical training. The Union of Liberal Students has submitted an amendment saying that there should be opportunities for vocational training and that the curriculum should include political education.

Malta students in exam exodus

Maltese medical students are having to take their final examinations in Britain because the bitter and long-running dispute between the Malta Government and the island's doctors has prevented them qualifying at home.

Thirty-two of the 39 final year medical students at the Royal University of Malta will be sitting the examinations of the Joint Board of the Royal College of Physicians and the Royal College of Surgeons in London on September 25.

Sir John Cross, chairman of the Scottish Council for Postgraduate Medical Education, who was appointed an external examiner by the Royal University of Malta, was not allowed to conduct oral and clinical examinations at the St Luke's teaching hospital this summer.

Eight students have already arrived in London and the rest will be flying in within the next three weeks. A BMA spokesman said the students seemed "initially confused" and did not know what they were going to do next.

Dr Vincent Moran, Maltese Health Minister, said the Government was not prepared to accept the BMA's terms, which would have meant that the students would have to take the Maltese degree, and would do so "when the situation returns to normal".

NEXT WEEK
BA president's address
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Music at University College, Cardiff
Philip Abrams reviews four new books in the media.

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Director sought to oversee teaching company scheme

by Clive Cookson
Science correspondent

The Science Research Council and the Department of Industry are looking for a director for their expanding teaching company scheme. According to advertisements in the national press this week, 11 teaching companies "have already been approved".

This statement seems a little premature, however, since only seven have actually been announced, and no one in the SRC was willing to give details of the other four this week. It is thought that there are still some details of the programme to be settled with the firms and educational institutions—two universities and two polytechnics—involved.

The decision to advertise the post—salary negotiable but not less than £12,000 a year—confirms that the SRC and DoI are pressing ahead with plans to set up a small central unit to coordinate the scheme. This was still under discussion when a LGN expansion plan

for the scheme over the next five years was announced in May.

The seven announced so far are based on a partnership between a university or polytechnic and an individual firm. Young engineers receive postgraduate training under the supervision of industrial and academic staff, helping to make major manufacturing changes in the firm.

The role of the director, as the SRC sees it, will be "to drive forward the entire scheme by planning its development, stimulating suitable proposals and monitoring the progress of approved programmes".

The person appointed will need a professional engineering background and "a record of successful technological and managerial innovation in manufacturing industry".

Dr W. G. Potter, head of engineering at the SRC, said the shape and composition of the teaching company directorate would be up to the new director. However, the unit would involve only a handful of staff.

TUC calls for training boost

The Trades Union Congress has asked the Government for funds to help to establish a national trade union educational centre and to finance a "significant expansion in residential facilities" on trade union courses according to the TUC annual report, which is to be presented to congress next month.

By the early 1980s, it says, about 180,000 trade unionists a year will be going on education courses connected with union work. The Government will be asked for several million pounds a year to help pay for them.

For this year's 40,000 training places the TUC asked for £1,135,000. It received £550,000. Last year's grant from public funds was £400,000.

The expansion in educational provision sought by the TUC comes from its forecast that by the early 1980s there will be 600,000 active union representatives at any one time. These will include 300,000 shop stewards and white collar representatives, up to 200,000 union safety representatives, 100,000 union pensions trustees and, possibly, some union representatives on company boards.

Assuming an annual turnover of 20 per cent, the current figure, this will mean that 120,000 new representatives a year will need training. About 500 additional full-time tutors will be required. At present there are about 300.

TUC policy is to send members on courses organized by further education and advanced further education colleges, the Workers' Educational Association and some university extra-mural departments. It would like to establish depart-

ments of trade union studies but recognizes that this will depend on the attitude of local education authorities.

Individual trade unions are not well placed to expand their training programmes as the TUC believes, says the report. Developments in industrial democracy are creating new needs in trade union education.

Representatives from different plants within a company need to be brought together and some company policies will require courses involving representatives from several unions. In view of this, "there needs to be significant expansion in residential facilities available to unions".

Last year's grant went on the payment of course fees to public bodies providing day release courses, on teaching materials, course development at the TUC colleges, tutor training and on union residential courses of at least four days.

For this year the General Council asked the Government if it would also help to pay up to half the cost of union courses providing a minimum of 15 hours study hours, but the request was turned down.

In recent years about £10,000 a year has been given to the TUC for educational purposes from the EEC trade union information division. Following consultations this year with REC officials, the TUC has now undertaken to use this money only in connexion with colleges "set in, or including, an EEC context".

Councils check student union spending

by Sue Reid

Local authorities are planning to send a two-man "fire brigade" team into colleges and polytechnics this autumn to investigate spending of student unions.

A committee of the Social Education Officers has decided the move, reported in today's edition of Education, because of high level of student union spending. They estimate that more than £10m is paid out each year by Government and local authorities in student union expenditure.

The committee, composed of education officers in polytechnics, is concerned about the lack of effective control of the level of fees demanded by the unions. It has called on the Department of Education and Science to take immediate action.

Mr Peter Shuman, education officer of the Association of Metropolitan Authorities, said this week: "We have long been worried about these fees. It is a classic case of irresponsibility."

The advisory team, appointed to monitor and curb spending of public sector higher education, said capitation fees was a priority for investigation.

But a National Union of Students spokesman this week rejected the charge of irresponsibility. He said there were already controls regarding fee increases. A cap on fee increases would be a "rejection of applications made by students and this often happens".

Adapt the axel colleges—NUS

A big drive to find new ways of collecting education department close, is demanded by the National Union of Students in its annual report on the education system, submitted to Mrs Williams, the Education Secretary, next week.

The NUS believes that the situation of teacher supply has become critical in many of the schools where rolls are rising. It says the colleges should be adapted to cope with the expansion of secondary education, with the many education and training schemes for unemployed 16-year-olds.

Courses for adults

Keble University's adult education department is to mount a range of courses throughout the year. The courses will be in the fields of agricultural, environmental and economic.

Eight point investigation of changing DES role

by Peter Hennessy

A committee of senior Civil Servants has begun a thoroughgoing review of the changing role of the Department of Education and Science, its relationship with Ministers, the rest of Whitehall and the local authorities in a period of economic austerity and public concern about education provision.

An eight-point agenda has been drawn up for the guidance of a Civil Service team which will provide the basis of the review. They have been instructed to produce a preliminary survey by the end of November.

The framework requires them to investigate: the objectives and functions of the department; its top organization and management; operational management on a week by week basis; financial control; manpower control; relations with local authorities, government departments and other organizations; its relationship with Ministers; and its relationship with HM Inspectorate of Schools.

Mr James Hamilton, permanent secretary to the department and chairman of the steering committee, described the work of the review team, which is to submit a report by the end of next month. This was: "A re-examination of the top management structure in face of rapid and extensive educational change in the form of financial constraints, a decreasing school population and a much greater public awareness of problems."

The review, one of a series affecting all Whitehall departments, assumes a continuation of the existing machinery of government. But it could well comment on areas of shared or blurred responsibility like the training of young people in which both the DES and the Manpower Services Commission play a part.

The whole area of 16 to 19-year-old provision is expected to be of primary concern. It has yet to be decided whether the schools inspectorate should be tackled within this exercise. The review team has been asked to advise the steering committee

on the possibility of breaking traditional divisional boundaries by establishing ad hoc teams to carry out special projects. Financial control will also be high on the list of priorities. The department has a forecast budget of £7,394m for the current financial year.

There is a feeling too among senior officials that one side effect of shrinking resources for education after so many years of increase, is that the department may need to play a more direct part in wider policy making and the allocation of priorities.

Euro-spaceman could be from British university

Universities have provided three of the five British candidates to become the first European in space. They were named this week by the Department of Industry: Dr Michael Smith, aged 39, lecturer in space science at Southampton University; Keith Mason, 26, research fellow at the Mullard Space Science Laboratory; University College London; and Mr William Grut, 27, mature science postgraduate student at Surrey University; Dr Arthur H. Birrell, 31, medical research physicist at the Centre for Space Research, University of Birmingham; and Dr Geoffrey Fernin, 29, reactor physicist with Associated Nuclear Services, Epworth.

They were selected from 600 applicants, including 30 women, through thorough medical testing and interviews during the second half of August.

The five names will be forwarded to the European Space Agency, which will receive short lists from other 11 member countries.

The THES

We apologise to readers for typographical errors in this and last week's issues of The THES. These were due to problems in the reading and composing rooms.



Mr James Hamilton

Survey surprise on lecturers' attitudes to pay

by Frances Gibb

Two out of three academics think their earnings fair in the present economic climate, according to a National Opinion Polls THES readership survey published this week. It shows that of a sample of university, polytechnic and college lecturers, 66 per cent consider their current earnings fair.

But there is a marked division of opinion between universities and polytechnics. Under half of university lecturers, 44 per cent, think their earnings fair compared with 69 per cent of polytechnic lecturers. In colleges of education the proportion is 65 per cent, while in colleges of further education it is 76 per cent.

A similar proportion is revealed by the proportions thinking their earnings are positively unfair. University lecturers are top with 50 per cent claiming earnings unfair compared with 25 per cent in polytechnics, 30 per cent in colleges of education and 20 per cent in further education.

The survey also shows that of those claiming their earnings are the low—49 per cent in universities and 20 per cent in polytechnics.

The survey was conducted on the basis of interviews with 506 lecturers in England and Wales in both further and higher education between March and July this year and July this year and with 293 in Scotland. Among its aims were to establish who the readers of The THES are; what their views are; what they read; what they think about educational journals in general and The Times supplements in particular.

It shows also that those contented with their earnings and those discontented are roughly equally divided between senior and junior lecturers. But engineering and technology lecturers, followed by science lecturers, feel hardest done by, with 38 per cent and 35 per cent respectively thinking earnings fair compared with 26 per cent of arts lecturers and 23 per cent of social scientists.

The proportion of senior to junior staff in further and higher education is 29 per cent to 71 per cent. Almost as many teach non-degree work, 47 per cent, as degree work, 53 per cent, and 29 per cent have postgraduate degrees and 54 per cent degrees.

On major educational issues, they are conservative on organization and progressive on content. Over half 59 per cent, favour a hierarchy of institutions with different functions as opposed to 28 per cent favouring comprehensive institutions with fairly uniform standards.

Survey report page 7

OU union wants paedophile group chairman moved

by Sue Reid

Open University clerical staff are planning to call for the transfer of Mr Tom O'Carroll, the university press officer, because of his involvement with the paedophile group.

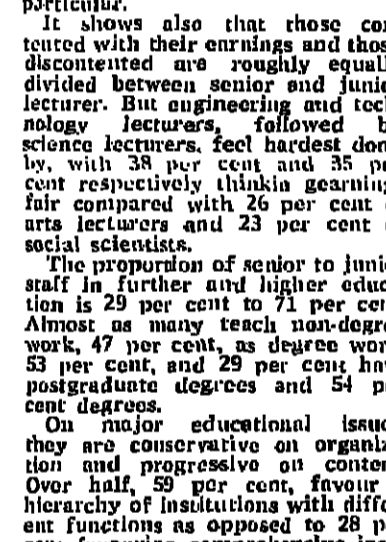
The National and Local Government Officers' Association at the university is to place a motion before its executive next week which calls on Sir Walter Perry, the vice-chancellor, to remove Mr O'Carroll, chairman of the PIE, from any position which could bring him into contact with the national press.

The move follows the decision this week to take no further action against Mr O'Carroll. He would, said the university, be returning to work next month after extended leave.

A statement added: "The university does not support his views on paedophilia and must not be associated with them. Mr O'Carroll was made aware of the feelings of revulsion which many staff members have expressed against his opinions."

The NALGO motion expresses concern about Mr O'Carroll's recent statements in the national press. Mr O'Carroll was unavailable for comment this week.

BA meeting report back page



"Suddenly I find my lecturer's salary more than adequate."

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ACADEMIC DEVELOPMENTS

Thematic approach to French goes forward

by David Walker

Next term students in French at Manchester University begin the second year of the department's re-designed and modernized syllabus.

The key to the Manchester reforms is the abolition of traditional divisions into historical periods or genres such as the novel or drama.

While the literature of France will remain at the core of the degree, the department has broadened the range of options.

The formula adopted by the three professors in the department, F. E. Sutcliffe (classical French literature), William Rothwell (French language and medieval French literature), and G. F. A. Goddard (modern French literature) is as follows.

Social studies hits headlines

It is not often that a new polytechnic degree course gets mentioned in Labour Weekly, but the staff running the BA in applied social studies at the Polytechnic of North London managed it, presumably on the grounds, as the prospectus says, that the degree "seeks to relate knowledge of the social sciences to the problems of taking effective action in the community."

The Council for National Academic Awards recently approved the four-year course to start in September. It is held to be specially attractive to mature students not having the usual entry qualifications.

The first two years give a grounding in the social sciences but offer an "applied studies programme" in addition. This is a series of seminars, workshop and projects in the field making use of staff expertise in statistical techniques.

The third and fourth years require choosing between specializing in social work with a view to obtaining the Certificate of Qualification in Social Work, or in social research. The latter is intended to prepare students for careers in social administration, planning or research.

Preference for the course will be given to those with at least a year's work experience.

After consultation with students it was decided to retain a basic first year. All would be given a knowledge of the historical development of French from the Middle Ages together with a grounding in the techniques of modern linguistics.

The extension with other disciplines and other foreign languages. This year it may be combined with Italian, Russian or Linguistics, all honours courses.

The emphasis of the Rose Bruford course will be performance, either in traditional theatre or in more experimental conditions.

The Exmouth connexion

by Judith Judd

Rolle College, Exmouth, saved from the axe partly because it serves a rural area, launches a BA in urban studies this month.

Mr L. W. M. Fry lecturer in urban studies, says there are good reasons for siting such a course at Exmouth: the college already has the courses which form the basis for the degree so it will be able to build on its resources and experience.

The course aims to look at urban society through many disciplines. Its purpose is to integrate disciplines through concentration on common themes.

The course has four units in each of three years with the assessment to be by examination papers at the end of the degree which is awarded by the University of Exeter.

Entrance requirements are four GCE passes, two of which must be at A level.

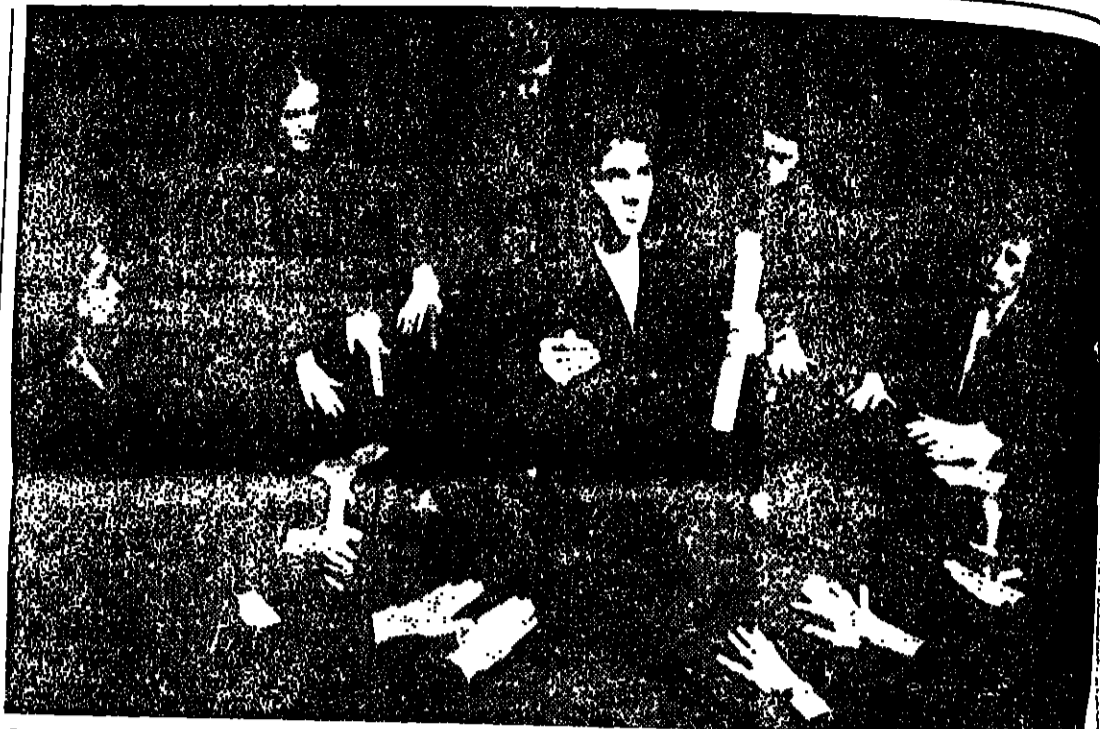
PCL diploma in women's studies

A diploma in women's studies is being offered by the Polytechnic of Central London this month. The inter-disciplinary course will be run on a part-time basis of one evening a week over two years.

Students will take five short courses ranging from "Women in the Family" to "Political Character of the Women's Movement".

The course is being run by the Department of Cultural and Community Studies Unit, part of the School of Communication.

Further details are obtainable from the Registry, School of Communication, PCL, 18-22 Riding House Street, London, W1 (Tel. 01-436 5811).



More and more are taking performing arts courses.

Performance arts—dance, drama and music—seem to be the subjects most fashionable for new degree courses at present.

They will undertake a graded acting programme, and study each level from the point of view of history and style, to understand original performance conditions and the aesthetic theories behind.

Other topics will be the problems of presenting classical repertoire in modern conditions, and the study of personal and social behaviour.

On with the dance, music, drama, etc...

At Birmingham, the course is similarly both practical and theoretical, and will prepare students for research into the art forms of opera, music, drama, for teaching in schools and colleges of further education, or for professional work.

Professor Ivor Keys, of the music department and Mr Jocelyn Powell, of the drama department, argue that there is a need for such a course because research has shown students with these three interests are usually forced to specialise in only one. In the case of dance, they have in the past had to take a practical course below degree level.

Birmingham centre takes up the Byzantine cause

The post-graduate Centre for Byzantine Studies at Birmingham University now replaces the Committee for Byzantine Studies, which existed for 13 years, built up a library and other resources, started a degree course, and organized study tours, inter-faculty courses and international symposia.

The centre, whose full-time director is Dr Anthony Bryer, will continue the committee's work of providing teaching in what is essentially an interdisciplinary field with lecturers from eight different departments.

In a sense, the centre's inauguration merely formalized an existing situation. Byzantine studies was already well established at the university; the British Bulletin of Byzantine Studies is edited there, and the journal Byzantine and Modern Greek Studies was founded.

The watermark of success

"Every single one of our graduates is able to get a very good job." This glowing reference for the paper Manchester Institute of Science and Technology comes from Lord Bowden, its principal.

UMIST runs the only university degree course in paper making in the United Kingdom and although there are places for over 20 students, the average intake is only 12. Ironically, the paper industry is facing a serious shortfall in recruitment.

Learning language of overseas marketing

Language graduates will soon be able to top up their degrees with a practical qualification in overseas marketing.

From October, the Polytechnic of Central London will offer a post-graduate diploma in this subject. It provides language graduates with some specialized knowledge which will serve as a relevant basis for research and further education.

The level of entry to teacher training fell to what it was seven years ago, the report says. It dropped from 91 in 1975, to 56, 15.8 per cent of the output. This was not matched in art where graduates, especially in art where graduates seemed to opt for tea-

Birmingham centre takes up the Byzantine cause

there. Among the university possessions is the Whitling Collection of 16,000 Byzantine coins, one of the most valuable collections in Western Europe.

Academics from many countries visited the centre earlier this year for its spring symposium, on the Byzantine Empire and Caliphate and the Crusader Intervention in the period 632-1258. Topics discussed included commerce, urban life, military matters, astronomy, Byzantine and Islamic palaces, and ceremony, and the Latin heritage in the Levant.

More ambitious plans for the centre are at present in cold storage, however, because of short-ages of funds. It is hoped eventually to establish more permanent posts and to increase the number of students. The University Grants Committee has been encouraging, but so far the necessary money has not been provided.

Housing degree

Bristol Polytechnic is to offer a BA in housing administration next month. The course, lasting two years and one term, will include a project work and a month placement in the housing profession. It has been developed by the department of surveying.

WEA claims grant share-out unfair

by Sarah Segre

The East Midlands district of the Workers' Educational Association claims that a £1m grant from the Department of Education and Science has been unfairly distributed between the 17 districts in England and Wales.

The problem has arisen because the DES has changed the system of financing WEA districts. From 1975-76, which covered 75 per cent of their agreed teaching costs, to a new cash limit grant from last month.

In the allocation East Midlands were given £91,800, which they say represents only about a 7 per cent increase over last year's figure while other districts have received as much as a 23 per cent increase.

Mr Rodney Lines, tutor organizer for South Lincolnshire, said: "It is a little thinner. We cannot operate within these limits but the Government says we have to. The allocation was supposed to get us out of the continuous cycle of having a deficit at the end of the year."

Mr David P. Ueacock, senior lecturer in music at the polytechnic, reports that students' response to the course was "unpredictable. One characteristic quickly emerged" was the "wide diversity of background, experience and interest in the performance arts, and in the ethnic roots, has influenced their response to the tasks undertaken and been reflected in the quality and nature of the work achieved."

Students are encouraged to work with the polytechnic's artists and societies. Working with the resident dance company, opera society contributes to the student's course work.

State of job market makes graduates reluctant to leave

by Frances Gibb

A reduction of nearly 20 per cent in the number of arts and social science graduates leaving Dundee University last year is reported in the 1975-76 annual report of the university's careers and appointments service.

The fall reflected a drop in the number of graduates generally, from 485 in 1975 to 431 last year. The number of science, law, medicine and dentistry graduates also fell, although the number in engineering increased.

One reason, according to the report, could be the increased difficulty of obtaining jobs. One response to a difficult job market could be that graduates were more likely to stay on and attempt an honours degree.

Another reason might be the publicity given to job difficulties during 1972-73, which could have affected the intake that year. There was a halt also in the fall in previous years of those going on to further education, research and training. Almost an equal number of graduates decided to go on to further education, training and research as gained jobs.

Despite the increased difficulty of obtaining research council support, most of those suitably qualified and wishing to do so were able to gain studentships for research and other higher degrees, especially in science.

The level of entry to teacher training fell to what it was seven years ago, the report says. It dropped from 91 in 1975, to 56, 15.8 per cent of the output. This was not matched in art where graduates, especially in art where graduates seemed to opt for tea-

cher training in the same numbers as always.

At Stirling, however, the number entering from arts and social sciences dropped from 75 to 41.

The report notes an increase in the number of graduates going to full-time study, mostly due to those embarking on courses for legal examinations (10 in 1976 compared with five in 1975) and other specialized training (15 in 1976 compared with six in 1975).

Specialized training includes personnel management, careers advisory work, business studies, accountancy, town planning and librarianship.

The trend probably reflects a desire by graduates to acquire a useful training for a particular kind of employment before entering it, the report says. "There is a good deal to be said for this viewpoint. Not only does it help the individual to gain some self-confidence to enter the world of work which he or she knows something about in advance, but it also has the merit of being a short-term training which can be entered and left before the job market has deteriorated too much."

In spite of predictions that 1976 would be one of the worst years over for graduate unemployment, Dundee had only 4 per cent still seeking jobs at the end of the year compared with 7 per cent the year before.

On graduates' destination, the report says that arts and social science graduates found a wide variety of jobs available in industry and commerce, many in accountancy. Law graduates went mostly into professional training, but the report notes the increasing difficulty in obtaining apprenticeships.

Mr Billy Hughes, WEA president, explained that overall they were reasonably satisfied with the new system of allocating the DES grant as it gave them greater flexibility in spending. The difficulty was that the Russell type of work they were being urged to carry out was more expensive to promote than the traditional work.

Mr Rodney Lines, tutor organizer for South Lincolnshire, said: "It is a little thinner. We cannot operate within these limits but the Government says we have to. The allocation was supposed to get us out of the continuous cycle of having a deficit at the end of the year."

One reason why the DES changed to a cash limit grant was that it had been urging the WEAs to concentrate more on the Russell-type subject work with the underprivileged and trade unions rather than the traditional evening classes. But, as Mr Lines explained, it cost money and he was already having difficulty in getting tutors. He could pay only £5 for an evening's work against the £10 to £13 being offered by the extra mural department of Leicester University.

The East Midlands district have lobbied and written to MPs as well as Mr Oakes, Minister for Higher Education, who has said the allocation to the 17 districts was made in the light of currently agreed teaching commitments and that he did not accept that East Midlands had received a disproportionately low share.

Mr Rog Jefferies, WEA general secretary said: "In the East Midlands district they probably got less than they were expecting and will find it fairly difficult. I think this district is about the worse off."

In some cases districts are better off in knowing exactly how much grant they are going to receive which means the uncertainty of the financial situation has been removed.

Polytechnics 'damaged' by local authorities

by David Walker

The influence of local authorities over the polytechnics is "negative and restrictive", according to a statement from the Association of Polytechnic Teachers. The statement has been issued to coincide with the discussions of the committee inquiring into the management of public sector higher education under Mr Oakes, Minister of State.

The APT, the organization of polytechnic lecturers based at Portsmouth Polytechnic, sets out its case against local government in a statement. Local authorities do not have the expertise to run the polytechnics, it says, and their efforts are bungling and arbitrary. Councils have control of polytechnics without proper responsibility for such education work.

The APT lists a number of widely held "fallacies" about local authority involvement in the polytechnics. First, representatives provide only a small part of total income. It is met from national taxation. And polytechnic activities have had to be carried out under a cloak of deception to pass the complex bureaucracy linking colleges and the local education authority.

It is an associated fallacy that the control of local authority higher education is part of the democratic duty of authorities and is within their ability. The APT says: "Actually the local authority's role is as an agent for the advanced fur-

ther education pool on the one hand and of the Department of Education on the other. The traditional role of the local authorities, over the reorganization of teacher training organs against any major function even in this field. The election of local councillors will be totally independent of the efficient functioning of higher education in their area."

The machinery for approving courses in the polytechnics has broken down, the APT says. Polytechnics are penalized by ill-functioed staffing arrangements inadequate for college technical and library staff.

The anonymous author of the APT's statement strikes a personal note when he discusses the inability of local authorities' finance departments to comprehend some of the items of expenditure by a good polytechnic teacher. "The placement of students in industry has required the availability of funds for travelling, subsistence and entertainment. The word 'entertainment' used here will have elicited a conditioned reflex from most local authority representatives. Memories of standing for hours in trains, separated by class of compartment from industrially based and generally junior travelling companions, on route to visit some distant, will have aroused bitter reflections from lecturers."

The APT recommends against control of the polytechnics by new regional authorities. Even bigger councils would ensure less accountability and responsibility.

Workshop for unemployed

A workshop to help unemployed graduates improve their job prospects is being held at the Polytechnic of Central London this week.

For two days, 28 graduates from universities and polytechnics all over the country will get practical and moral guidance from experienced careers tutors.

Ms Anna Ewins, the organizer of the conference and a careers tutor at PCL, said: "We were very worried about unemployment this year and knew from our own students how many had been making applications and not getting anywhere."

She said the workshop was aimed at three particular groups: those who had "buried" their careers in the sand and not looked for jobs until they had graduated; those who after trying for one kind of job had to rethink and look for something more realistically, and those who needed help with the practical details such as filling in forms and interview techniques.

The workshop was advertised in the job vacancy lists sent to all universities and polytechnics. The number of replies was about double that needed, Ms Ewins said. One third of the students are from PCL, with the rest coming from places such as Durham and the Midlands.

On the first day of the workshop will concentrate on counselling students; encouraging them to look at past experiences, where they are now, and what the future holds. "This is to give them a feeling of being in control of their situation, and give them a positive approach," Ms Ewins said.

The second day will provide, with the aid of videotapes, the practical details of job hunting: filling in forms; letters of application; the selection process; and interviews. "Many people think that graduates ought to know all this," Ms Ewins said. "But although they may be educated in an academic cognitive way, when it comes to practical knowledge, they are as naive as the school leaver."

She added, however, that although unemployment among graduates was estimated to be about 9 per cent at present, they were not as badly off as school leavers or the average number of the public.

First look at leisure services

A working group set up by Middlesex Polytechnic's local government studies unit to look at the way in which local authorities in England charge for their leisure, recreation and amenities services, will be meeting for the first time this month.

Mr Dennis Marsh, senior lecturer in local government studies, said last week that between 40 and 50 authorities would be taking part. "The interest they have shown is considerable. They have already submitted a lot of written evidence."

A report on the group's work will be published after the meetings which were rescheduled from earlier this year because of student unrest to September, October and November. Mr Marsh decided to set up a working group to look at recreation charges after completing pilot research.

"It is anticipated that the group will consider changes across the whole spectrum of leisure—from sauna baths to fishing permits. The developing trend over the past few years of local authorities becoming more involved in leisure provision makes it imperative that the whole question of charges and charging policies is investigated and debated," he said.

Gardening pundit to retire

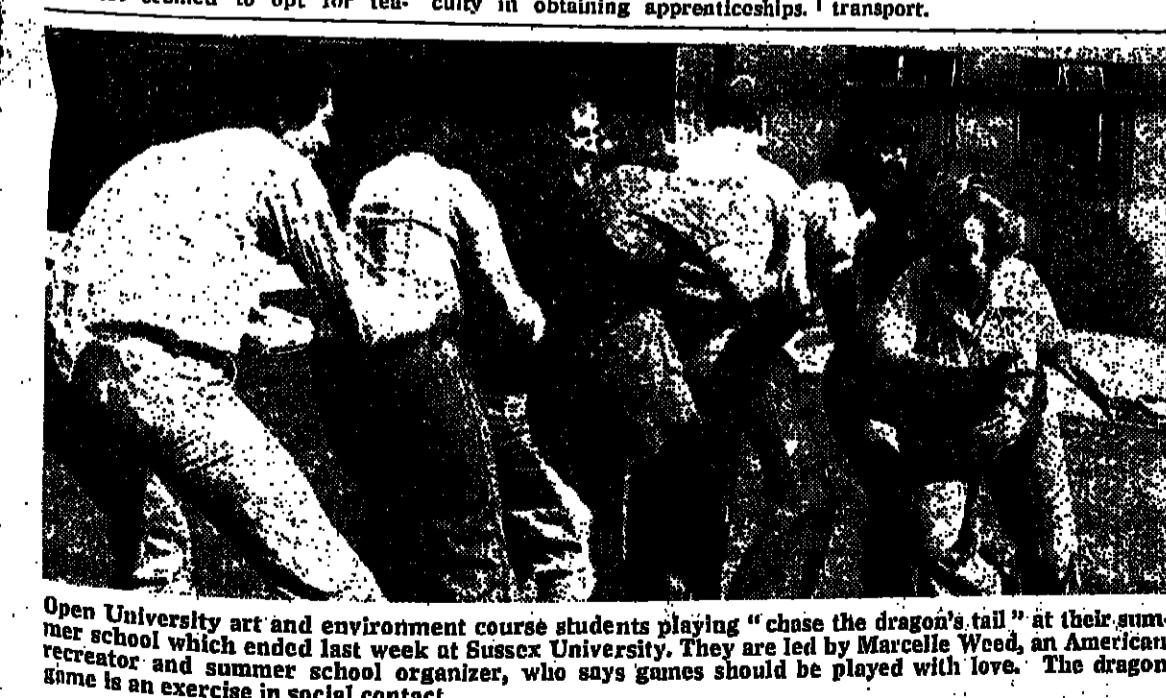
Professor Alan Gemmell, first professor of biology at the University of Keele, is to retire in September. His broadcasting activities, including more than 1,250 appearances on Gardener's Question Time, have made him one of Britain's best known academics.

Professor Gemmell, who is 64, has been a regular broadcaster since 1950, when he took up his appointment at Keele.

8 medical awards

Eight fellowships have been awarded for 1977 to graduate who want to study medicine by the Foulkes Foundation, which was established in 1975 with the aims of furthering medical research. They are intended to provide financial support for recently qualified science graduates with research experience who want to study medicine and for medical graduates who want to take a science degree.

COURSES STUDY AT HOME For a London University External Degree... Wolsley Hall, Oxford... Tel: 0865 84231



Open University art and environment course students playing "chase the dragon's tail" at their summer school which ended last week at Sussex University. They are led by Marcelle Weed, an American recreater and summer school organizer, who says games should be played with love. The dragon game is an exercise in social contact.

On the other hand

On holiday at Warwick

British universities lead double lives. During the term they are inhabited by the sort of people who read this column while on duty at the frontiers of knowledge. During the vacations many become cosmopolitan leisure centres, more Ambre Solaire than Tactus, more Terry Towelling than examination rubrics.

Glancing through the brochure of the British Universities Accommodation Consortium, which promotes holiday letting and conference facilities, I saw that I could stay at the Queen's University, Belfast, "near the Giant's Causeway, the Mountains of Mourne and the largest freshwater lake in Europe", or Aberdeen University "at the centre of the exciting North Sea Oil industry" or Kent near "where Henry VIII is said to have wooed Anne Boleyn".

Comparing the brochures of Thomson Holidays, BIAC and various others, I had whittled down my holiday choices to Tenerife, University College, Cardiff, Banana Bay or Warwick University. In the end I chose Warwick, because the water there seemed least likely to upset my stomach.

Arriving at Warwick in brilliant sunshine, I stopped to savour the festive countryside that surrounded the holiday camp. A car drew up in front of me and through its open windows came sounds of shouting, recrimination and abuse. Raised adult voices were drowned by the screams of miserable children beating their fists on the upholstery in

desperate rage. It was a family holiday. This was one of the nuclear families, exploding in little packets all over the campus, that pay £50 a week for a six bed holiday flat and contribute £350,000 to the university's turnover. Last year 15,000 people stayed in a total of 40,000 nights in vacation accommodation at Warwick for conferences, youth events, and Open University summer schools. Surprisingly, you do not see many of them around the campus, except at meal times. They tend to drive elsewhere.

While the porter explained that I was not expected and that he had never heard of me, I depended on the sort of hard-sell holiday brochure you could write for a place like this.

FOR ONLY £50 a week lovely Warwick University can be yours. Ideally situated between Coventry and Leamington Spa, this resort is only 20 minutes on foot from Kenilworth, two hours from Warwick Castle and 17 weeks from the Edinburgh Festival. WRANGLE at your leisure with a misanthropic porter who has not been informed of your booking. "Oh, they're always dropping us in it. How long are you here for?"

"Just a few days. I'm on holiday", I beamed. "On your own?" "Yes."

He looked at my Paisley beach shirt, my sun specs and the bundle of tanning lotion that lay on top of my bag. He had decided I was peculiar and eyed me suspiciously. "This isn't a hotel, you know," he said, standing beneath a "We are members of the Heart of England Tourist Board" sign.

He explained patiently that normally holiday lettings were for families or groups and for periods of a week. The place was not geared up to people just dropping in for a couple of days and not staying from 11 to 11. Eventually he sent me to a student room for £1.70 a night, excluding absolutely everything. Thereafter, each time I passed, my eyes trailed me with great suspicion, since he shouted a good 20 ft. "How's the holiday going?" I shall be unking a comment about him in the visitor's book.

WATCH the expression of disbelief on his face as you lie in the sun on the lawn in front of the building in floral shorts and a sun hat.

TIRRE at a get-to-know-you disco in the students' union where the world's most heavily heeled disc jockey presides over a completely empty dance area, the surrounds of which are closely packed with people who wish he would shut up.

"Come on dance," screamed the disc jockey, who was clearly having trouble getting this gig out of the members' enclosure and on to the starting line. He traversed his entire repertoire, rock to reggae, funky to folk, waltz to tango, and then he said, "I'm on holiday" and disappeared.

Every now and then couples walked to the centre of the floor and gave, way to sporadic muscle twitching. It was not until the bars closed that the Open University boys moved in, frugging and juggling and juggling till the glass reached its finishing tape and the disc jockey went home, exhausted.

GIVE WAY to a holiday romance: something to be nicely depressed about on the motorway home. BUY a Warwick University postcard to tell your friends what a wonderful time you are having.

Dear all, Having a wonderful time. Food not too bad. Most people eat at "the cafeteria" which is very central but can get rather crowded. I have found a rather super little place which is off the main tourist route and decidedly folkloric. It is called "the students union snack bar" and you can eat there beneath real "support the right to work at Warwick" posters.

There are still quite a lot of regular students here, but they are generally in the television room. I sat among 30 of them in a film about watch A Taste of Evil, a film about an attractive young American woman in a very short dress who is persecuted by a man that came back from the dead to chase her



through a thunder storm. There was a fair bit of suspense and the students watched in silence.

When it ended an earnest announcer's face came up on the screen to say: "And now a documentary on welfare provision in the country. In a body and without uttering a word, the 30 students got up and left me alone in the vast room to contemplate the hiccup in our curing machine."

There are also Open University students here for a summer school. It is a wonderful opportunity for them to see how regular students go about things. At first they sit earnestly in groups discussing life and the postal system, but then realize this is just not academic and get watch Kojak. The whole point of the school is that you get good reception up there.

Dear aunt, Have just been to Stratford, since it is nearby, to see Henry VI part one. There were only side balcony seats left which were leaning forward on brass railings. It was so hot that I met an American there who said he had once seen Othello from these seats and did not clap eyes on the Moor till after the interval. He knew something was up prior knowledge, but without prior knowledge he could not tell what. Nothing could have surprised him more than when this negro type eventually wandered into view and announced that he was going to kill her.

Henry VI is not my favourite play. Even those critics who would defend Titus Andronicus and stoutly claim they have never once looked out the window during Troilus And Cressida will, confronted with this Henry business, lay down their arms and cry: "This is the summer of the civil war!"

It is full of people like tetchy Lancaster and talkative Monmouth and lusty Biggleswade. I grew rather fond of lusty Biggleswade when he spent a lot of time in my half of the stage. The only time he ventured to the other side, I heard he got shot by John of Ar.

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There is in fact a taboo on open discussion in connection with these attitudes are unjustifiable. It is the freedom of scientific enquiry that both are based on laudable human motives. The fact that both are based on laudable motives, the least partly true of the Lysonskian arguments in the USSR. One of the arguments by means of which Lysonka, and the authorities in the Soviet Union to

promote his own theories at the expense of Mendelism, is that his theories would allow rapid expansion of agricultural production while Mendelism was a mere academic disaster. The result of course was recommended in favour of some preliminary steps in this direction, these were rejected by a vote of the members of the academy themselves. My message, then, is that neither clues nor motive are permissible substitutes for evidence firmly based on experiment and observation. There are temptations, on aesthetic grounds, to give too much weight to broad unifying principles which deserve to be used only as and there is another set of temptations, on moral grounds, to pay too much attention to what we hope the societal consequences of our theories will be—a large part of the ingenuity of most scientists in carrying out their work.

Although I have drawn attention to several cases where motive, political or ideological, is impeding an not despondent about the future, I believe that, at least in the West, people around both scientists and laymen, who appreciate that in the long run the value of science depends entirely on its conclusions being independent of wishes and fears, and who will rally to the defence of science in the face of that. I have spoken of become severe.

Two-thirds of lecturers think their earnings fair

THES/NOP readership survey

The typical academic is married, has children, has a house or flat on a mortgage and owns a car. He is more likely to vote Labour, but is inclining towards the Conservatives. This year he took his holiday in Britain at an average cost of £200 to £300 for the whole family. This picture emerges from a NOP readership survey of academics in higher education, published this week. It shows that in the past five years the academic lifestyle has changed. The lecturer's workload has increased at the expense of his research, and he is unlikely to have changed his job. Economically, he feels the pinch but does not regard himself too badly off.

Contrary to popular belief, 66 per cent of lecturers are shown to think their present earnings fair in the present economic climate. This was the present economic climate, however, where 44 per cent thought it the case compared with 69 per cent in polytechnics, 76 per cent in colleges of further education and 65 per cent in universities. Conversely, earnings were thought unfair by 50 per cent of university lecturers; 25 per cent in polytechnics, 30 per cent in colleges of education and 20 per cent in further education.

Salaries across the board tend to fall in the £3,500-£6,000 bracket. According to the survey, one in three academics has a salary of over £6,000, 12 per cent are between £4,500 and £4,999, 16 per cent between £5,000 and £5,499, 11 per cent between £5,500 and £5,999. The survey was conducted on the basis of interviews with 506 lecturers in England and Wales, both in further and higher education and a similar one on 293 lecturers in Scotland. In England and Wales, 30 universities were picked according to size and type from the Commonwealth Universities Year Book and a random sample of five lecturers picked at each. Interviews were obtained with 126.

ACADEMICS: EDUCATIONAL FACTS	England and Wales		Scotland
	All	Eng. and Wales	Scotland
Sex:	Male 48	55	83
	Female 52	45	17
Age:	29-35 35	35	30
	36-45 55	34	36
	46+ 10	31	34
Teaching Level:	College 53	44	N/A
	Non-Degree 47	56	24
	Degree 53	44	76
Degrees:	Postgraduate 29	38	N/A
	Undergraduate 71	62	24

The hills are alive with a one-man industry

Alan Hoddinott is almost a music industry in himself. His three jobs, as professor of music at the University College, Cardiff, artistic director of one of the city's two annual music festivals and composer, frequently keep him busy 20 hours a day. It is, however, a diet he is used to, having followed it for the past 10 years and having combined the teaching and writing of music since taking his first academic post, at the City of Cardiff College of Music and Drama, 26 years ago when he was 22. By 1959, when he became a lecturer at University College, Cardiff, he had already written his first symphony, piano sonata and suite of Welsh dances as well as concertos for piano, oboe, harp, violin and, most notably, clarinet.

His third published work out of a corpus that now includes almost 100 concertos, gave him his first success when it was conducted by Sir Malcolm Harlow at the Cheltenham Festival in 1954. It began a number of fruitful associations. Cheltenham later produced his symphony No 2 and his concerto and piano works. Professor Hoddinott's prolificity has grown with his reputation. In 1968, the year after he was appointed to head the music department, he finished two orchestral works, Sinfonietta 1 and Florituro; Roman Dances, a scene for soprano and instrumental ensemble; the Piano Sonata, No 5 and Divertimento for Oboe as well as starting on three other works.

He does not believe in brooding over his work. If you are a creative artist, you can do it like that (he snaps his fingers)—and quickly. You don't have to stew on it. This music, he says, is a modern neurosis. Neither does he believe that composers or professors of music should reside in ivory towers. He never writes anything without prior commission and has transformed his music department into far Britain's largest. Plans to expand the department, removing it from a handful of rooms in the main college building, had already been sketched when he became professor. However, it was not until a new £250,000 building on the edge of Cardiff's Edwardian civic centre was opened, in 1970, that growth accelerated. In its first year, in the new building the department had 148 students; it now has 219 and a staff of 44, including 20 part-timers, making it half as big again as that at Cambridge.

From polytechnics, 119 lecturers picked from staff lists were finally interviewed; 114 from colleges of education and 147 from further education. The same applied in Scotland. The interviews reveal the academic to be a generally less conservative creature than the rest of the population. At the last election, 50 per cent voted Labour compared with 39 per cent of the country as a whole; 29 per cent Conservative (36 per cent); 19 per cent Liberal (18 per cent) and 1 per cent Nationalist (3 per cent).

Labour's following in polytechnics and universities is roughly equal, but the Conservatives have a far stronger foothold in the polytechnics while the Liberals claim a good sized group in universities. Asked what they would vote if an election were held tomorrow, academics show a swing to the right. Some 46 per cent would vote Labour, compared with 38 per cent of the general population; 38 per cent Conservative (49 per cent); 12 per cent Liberal (nine per cent) and three per cent Nationalist (three per cent).

The academic's lifestyle remains better than the average member of the public. Nearly all have bank accounts, compared with half the general public. Some 17 per cent have unit trusts, as against four per cent of the public, and 19 per cent have stocks and shares, as against six per cent of the public. Perhaps surprisingly, more than one in five own a flat or house; owners being equally spread between universities, polytechnics and colleges. Over half, 55 per cent, are

DEMOGRAPHIC BACKGROUND	All		Eng. and Wales		Scotland	
	All	Academics	Eng. and Wales	Scotland	Eng. and Wales	Scotland
House:	Own/Buying 22	84	84	88	84	88
	Renting 41	10	10	5	10	5
	Other 6	4	4	5	4	5
Car:	Own 53*	14	14	9	14	9
	Holiday: 52	50	50	55	52	55
	U.K. 13	27	27	21	13	21
Financial:	Current Account 50	97	97	90	50	90
	Unit Trusts 4	17	17	16	4	17
	Stocks and Shares 6	19	19	19	6	19



Professor Hoddinott—no brooding over creative act.

run a full-scale orchestra as well as smaller groups such as the Palestrina Choir and Baroque Choir and orchestra. Other innovations have included an annual music journal, Soundings, the issue of a series of gramophone recordings featuring the university ensemble, the creation of Wales's first national music archives and the introduction of student master classes.

However, the department's rapid growth has not been painless and Professor Hoddinott, who admits to no dislike for university politics, says other heads of department have been jealous of the resources devoted to music. He praises Dr C. W. Bevan, the principal: "Ten years ago the situation was pretty poor, but he has given me complete support. He has given me music as a growth point, like archaeology and Physics, has also been vital—

social sciences. Second is The Times, read by 22 per cent, which is strongest in universities and colleges of further education, again among junior staff and particularly with social scientists. Third choice is The Telegraph, read by 19 per cent, strongest in colleges of further education and universities, and read regularly by the same proportion of lecturers in all subjects.

The least popular dailies are The Sun and the Daily Express. As for the Sunday papers, 50 per cent read The Sunday Times and 38 per cent The Sunday Express. As for the Sunday Express, it still has the highest readership of any educational publication in higher education, excluding further education. An average issue has 35,000 readers in England and Wales and 3,000 in Scotland, but 76,300 have read it at some time, over 6,000 in Scotland.

As with other educational journals the percentage of readers from higher education on average per issue has slightly slipped; in the case of The THES from 41 per cent to 40 per cent, but circulation has remained steady because of the expansion in higher education. The decline has been greatest in the polytechnics, while there has been a big increase in colleges of education. It is mainly read in libraries and common rooms, with only one in five readers buying their own copies. The chief reasons for reading it are: news in higher education (20 per cent); articles of interest (17 per cent); job advertising (15 per cent); new developments (15 per cent) and for keeping up to date (13 per cent).

The THES still maintains its place among the quality journals. Including further education, 28 per cent of academics read it compared with 15 per cent The Times Literary Supplement, 12 per cent The Listener and, perhaps surprisingly, 14 per cent The Guardian. Which goes to show that while academics take their work seriously, they also have a sense of humour. NOP Market Research Teachers Survey 1977 Vol. 2 Tertiary England and Wales.

Frances Gibb

premiered in the last four years have been one of Benjamin Britten's last works, A Birthday Isaac, based on poems by Robert Burns. During the 10 years since he became professor, he has written more than 40 works, among them his first opera, Boach of Falesa, which is based on a Robert Stephenson story and was performed by the Welsh National Opera in 1974. He is increasingly attracted to opera. Nevertheless, as a Socialist who grew up in a Glamorgan mining community, he is worried by its inaccessibility.

Partly for that reason, his second opera Murder, The Magician, was written for Harlech Festival, which he has written for Harlech Festival. He is increasingly attracted to opera. Nevertheless, as a Socialist who grew up in a Glamorgan mining community, he is worried by its inaccessibility. Partly for that reason, his second opera Murder, The Magician, was written for Harlech Festival, which he has written for Harlech Festival.

He is also, surprisingly, one of the best represented on record of living British composers, with 35 works currently available. Only Sir William Walton has more and, of his contemporaries, only four have more than a dozen works in the latest classical catalogue—William Mathias, Malcolm Arnold, Peter Maxwell Davies and Richard Rodney Bennett.

Professor Hoddinott, however, is not a record collector. If he were, his taste would be catholic but unusual. With the exception of Berlioz, he prefers 20th century music and of British composers, dislikes Vaughan Williams, finds little in Elgar but much in Delius. For himself, he says: "If I survive by three or four pieces, I'll be happy."

Mike Duckenfield

No substitute for evidence firmly based on experiment

low average performance of American Negroes on tests of certain kinds of mental ability may be an argument against allowing them to occupy positions of responsibility, while to an egalitarian the very same fact is an argument for providing not merely equal opportunities but compensatory advantages such as are implied in the "affirmative action" that the United States Federal Government now requires of any employer, or in educational programmes such as "Headstart". In just the same way, a belief in Christianity has been taken by some as an ongoing pacifism and by others as the justification for religious wars.

If science as a whole is neutral on the ethical issues, what about the position of the individual scientist? It is sometimes said that he should have a greater share in decision-making than his fellow citizens, but I regard this as an unreasonable claim. Most, if not all, we are faced on so complex and unpredictable that no one, scientist

or layman, can foresee with any certainty the long-term outcome of any particular course of action. The results of scientific investigations are one, but only one, of many ingredients that should enter into any decision. Their advantage is that they are—or should be—more reliable than opinions formed by less systematic procedures, but they suffer from the corresponding limitation that they provide answers only to the simplest of the questions that face us. The scientist's special duty is to increase the reliability and the scope of relevant knowledge as far as he can to make it available to his fellow citizens; and, not least, to make known its uncertainties and its limitations.

There is a special claim to be listened to as long as what he says is soundly based on actual evidence, but he forfeits that claim if he presents preliminary or unverified results—that is to say, clues by evidence, or more important, if he selects or slants his results, or as to support a view which he holds on other grounds, however meritorious or otherwise that view may be. Again, this may seem so obvious as not to need saying, but when actually happens when someone has the courage to suggest that systematic and scientific investigations of these emotive fields? Such proposals were made, originally about 10 years ago, by William Shockley. Laboratories who shared a Nobel Prize for the invention of the transistor.

Shockley proposed to the National Academy of Sciences of the United States that they should initiate a programme of investigation of the degree of heritability of differences of ability, and this proposal was repeatedly turned down. Even when a committee set up by the academy recommended in favour of some preliminary steps in this direction, these were rejected by a vote of the members of the academy themselves.

It is true that Shockley was, at the same time, advocating eugenic measures that were not acceptable to public opinion, but I think it is clear that the main reason for his refusal to undertake any investigation in this field was the fact that it would be represented as a commitment to an illiberal point of view unfavourable to American Negroes. The same motive was, I am sure, the principal one behind the lamentable event in 1973 when, under pressure from some of their staff at Leeds, the University of Leeds withdrew the honor of an honorary degree that had been made to Shockley a few months before.

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promote his own theories at the expense of Mendelism, is that his theories would allow rapid expansion of agricultural production while Mendelism was a mere academic disaster. The result of course was recommended in favour of some preliminary steps in this direction, these were rejected by a vote of the members of the academy themselves. My message, then, is that neither clues nor motive are permissible substitutes for evidence firmly based on experiment and observation. There are temptations, on aesthetic grounds, to give too much weight to broad unifying principles which deserve to be used only as and there is another set of temptations, on moral grounds, to pay too much attention to what we hope the societal consequences of our theories will be—a large part of the ingenuity of most scientists in carrying out their work.

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NOTICE BOARD

Appointments

The Standing Conference of University Appointments Services (SCUAS) is holding its biennial national conference at the University of Hull from September 5-8. The main theme of the conference will be the problems of mature students and employment. Main speakers include: Mr. G. G. Minister, Director of Education and Dr. Patrick Nutting, Director of Leeds Polytechnic. Further information from T. A. Smith, Director and conference organizer, Careers and Appointments Service, University of Hull, 6 Percuss Avenue, Hull HU6 7SU.

The training division of the Association of Certified Accountants is holding a one-day course on the 1977 budget.

Grants

research into the development of amorphous silicon devices.

Edinburgh
Social administration—Professor J. C. Spencer—£23,000 from the Craigmillar Festival Society in continued support of research work in connection with the BEC programme of pilot schemes and studies to combat poverty.
Chemistry—Professor J. G. Cadogan—£56,193 from Imperial Chemical Industries Ltd, over a period of four years, for research on phosphoranyl cation techniques for attachment of dyes to cellulose.
Genetics—Professor G. H. Beale—£81,000 from the MRC over three years for research on genetics of malaria parasites.
Veterinary Medicine—Professor Sir Alexander Robertson—£31,478 from the Department of the Environment over three years for research into arthropod-borne viruses.
Chemistry—Dr D. W. H. Rankin—

set on September 6 at the Cafe Royal, Regent Street. Fee: £40 plus VAT. Further information from Gay Jordan, Senior Courses Officer, The Certified Accountants Educational Trust, 9 Museum House, Museum Street, London WC1A 1PT.

"Alternative Paths For Planning", a one-day conference is being held on September 12 at the department of Town and Country Planning, Polytechnic. Speakers include: Professor M. W. Thorne, head of the department of mechanical engineering, London University; Queen Mary College and Gerald Poley of the School of Architecture, The Architectural Association. Further details from Philip Branch, department of town and country planning, Trent Polytechnic, Burton Street, Nottingham NG1 4BU.

"Practice and Design in the treatment

of chemical waste" is a one-day course to be run on September 14 at the Polytechnic of Central London. It is intended for the chemical industry, waste industry, local government and organizations concerned with the treatment and disposal of waste. Further details from John Hoadley, Short Course Unit, PCL, 20 Regent Street, London W1R 8AL.

The International Scientific Film Association Congress and Festival 1977 will be held in Venice from September 18-24. Application forms and further details of the congress and festival can be obtained from Miss Dora Thomas, IFA Secretariat, 100, Victoria Street, London SW1 4NA.

"Developments in Irreversible Thermodynamics" discussion meeting will be held on September 21 in the Anatomy Theatre of University

College London. The discussion will centre around a series of papers prepared by Mr. Ross Hosketh of CEGH Laboratories on this subject. Enquiries to Dr. J. Lewis, department of mechanical engineering, ICL, Tower Street, London WC1.

Effective Management of data processing projects: A seminar organized by the Control Data Institute will be held at the Gloucester Hotel, London from September 19-21. Further information from Teresa Barnard, CUI, 77 Wells Street, London W1.

A one-week intensive residential film production course run jointly by the University of Salford and the University of Salford, Salford M6 4WT.

Universities

Research fellow H. Low (Chemistry) Assistant in Linguistics: H. Ruff (Economics). Members of Court: J. G. C. White (three years), Sir Herbert Brechin (appointed for three years), The Hon. the Lord Balgarny of St. Columbkille (three years), Professor Sir John Feather; Council: Professor Sir

Polytechnics

North-East London Polytechnic Press officer: Gillian Winston.

Runcom, in support of a Joint engineering laboratory.

Newcastle
Neurology—Professor J. N. W. 116,277 from the Muscular Dystrophy Group for one year from Oct 1977, for research into neuro-muscular diseases.

Medicine (geriatrics)—Professor Grimley Evans—£26,355 from a DRISS to provide continuing support for research into the geriatric population in the North East of England, 1977, of the medical geriatrics research project entitled "Stroke and Fractures Fever".

Noticeboard is compiled by Patricia Santinelli and Mita Goldie

Medical schools resist 'overseas' influx

from Michael Binyon WASHINGTON
America's leading medical schools have begun a campaign of resistance to the Government that could lead to substantial financial penalties. They are refusing to waive normal admissions criteria and admit a quota of students transferring from foreign medical schools. This is despite a clause in a Congressional act last year instructing them to do so.

Several medical schools argued earlier this year that the legislation expressed an unwelcome interference. Brewster, while still President of Yale, led the fight against what he considered "outrageous" Congressional intrusion on the right of universities to control their admissions policies.

Now John Hopkins medical school, probably the best known in the country, has told the Government that it will not abide by this requirement. Consequently, it could face up to \$70,000. Other universities also defying the law include Yale, Harvard, Stanford, University of California at Los Angeles and St. Louis.

The legislation, slipped through last autumn almost unnoticed during a joint conference between staffs of the Senate and the House of Representatives to work out Federal Government subsidies for medical schools, requires medical schools to accept as a third-year transfer student any American citizen or permanent resident who has completed two years at foreign medical schools. Otherwise the schools will lose their subsidies of up to \$1,400 per student.

Voting with their feet

Fay Haussman on why Brazil's middle-class students have taken to the streets after nearly a decade of quiet

representing a growth of 700 per cent over 11 years.

This growth has, of course, not come about without objections. Students complain that the public and essentially tuition-free, universities today account for barely 30 per cent of these enrolments, and that the rest of the growth has been in private schools which charge tuition fees. Swearing costs of operation, often compounded by mismanagement, have this year sharply increased fees of all kinds, and even the public universities have had to resort to charging additional, disproportionate fees for such things as simple transcripts.

Educators, in turn, have protested that the huge expansion of higher education has led to a proliferation of sub-standard private facilities dispensing sub-standard education. Another complaint is that even the elite universities are forced to accept "neoliberals" through a liberalized system of entrance examinations adopted in 1971.

Even in the big cities, vestibular exams are of unique importance to Brazilian society at large. In the smaller cities in Brazil's interior, most of which have a *favelada* (single-purpose college) or else are pressuring the Government for permission and funds to organize one, candidates who have successfully navigated the shoals of the vestibular march through town in a festive procession ostentatiously marking their rites of passage into the privileged world of the university student.

Even in the big cities, vestibular exams are a tradition, a rite of passage, a rite of passage, a rite of passage. For days before, during and after exams, news of the tests—how many candidates are taking them, where, what the odds are, comments on the peculiarities of the current tests—is reported in detail in Brazil's prestigious dailies.

For the past 13 years, the Government has both coddled and curbed its university students. So long as they stick to their studies, they are being treated as the nation's elite and its future leaders, and are being favoured as few other sectors in Brazilian society. The moment they speak out of turn, discuss national politics on campus or dare criticize the Government, they are being treated as trouble-makers and subversives, and are being treated as such.

One of the most remarkable phenomena on Brazil's expanding educational horizon has been the growth of its higher education after 1964. Already in 1968, when masses of students, parents, professors and clergy marched down the avenues of Rio de Janeiro, demanding reform of the variety of student grievances, university officials were nearly twice the number since had been in 1964, a paltry 14,000 for Latin America's largest nation. In 1976, about 1,150,000 students were enrolled in higher education, dangerous, were markedly incon-

Open University programmes September 3 to September 3

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Drugs course for inmates

Prisoners in San Quentin can earn part of a degree by learning about drug abuse under a new programme run by the neighbouring University of California at San Francisco.

The course, "The Pharmacology of Drug Abuse", is designed for hard-core addicts and others. Taught by graduate and post-graduate and post-doctoral students from the university, it carries academic credit towards a degree, and emphasizes an objective approach to psychoactive drugs, exploring how drugs affect the human body, rather than probing the psyche of drug users.

The course's main objective is to give "useful" and "relevant" information, not to change the inmate's behaviour. Questionnaires filled in after the course suggested, however, that it has made a difference to drug use. One said his outlook had changed because most of his experiences had been based on misinformation. Another said it taught him what to expect without experimentation.

Race dispute simmers on

A new round has started in the marathon battle between the Federal Government and the State of Maryland over the desegregation of Maryland's colleges and universities.

An appeal court has told the State to speed up its efforts, but it has refused to allow Washington to cut off all government money from Maryland, as the Department of Health, Education and Welfare originally wanted to do.

The HEW has 90 days to approve guidelines for desegregation, and Maryland will then have 60 days to produce an acceptable plan. But the State has already indicated that it is going to appeal against the Appeals court order.

The tug-of-war has led to a lot of marching and picketing. The Department of Health, Education and Welfare's Office of Civil Rights, Maryland's efforts at desegregation have so far been successful in some areas but not in others. The percentage of blacks in State colleges has risen from 11 to 22 per cent since 1970. But most of those students are at four predominantly black institutions—two of them enrolling almost 90 per cent black students.

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Retirement at 70 plan

A Bill in Congress to make it illegal for universities to force employees to retire before the age of 70 has set the cat among the pigeons in the academic world. So far, however, university officials and union leaders have maintained a discreet public silence on this policy-related proposal.

The Bill, already approved by the House of Representatives, makes it illegal for unions to negotiate contracts that provide for forced retirement earlier than 70. Many university administrators are privately aghast at the proposal. It would mean a heavy increase in their costs, since academic salaries are generally highest at the end of a teacher's career.

Even more worrying, it would effectively block job opportunities for young scholars and graduates for another five years, as a time when the job market for young academics is already very difficult.

The new proposal would mean that older teachers who have passed their prime but cannot be dismissed because they have tenure will have to work out how they can accommodate themselves to the new provisions.

West Germany heralds end of era

The expansion phase of West Germany's higher education is coming to an end. The number of students in the tertiary sector is expected to decline in the mid-1980s, will be the last for the foreseeable future. It is designed as a technological university for initially 2,800 students (later planned to grow to 6,000). Its first 425 students will be admitted in 1981.

The Hamburg government estimates the capital cost of the project will be DM330 million (£22m), plus another four to five million for temporary accommodation and student housing. The Federal Government is expected to pay half of this.

The new technological university will complement the existing University of Hamburg which does not offer any technological subjects except marine engineering. It will specialise in mechanical, electrical and chemical engineering. Eight different courses for 2,500 students will be offered in further 300 student places in building, architecture and town planning will be created at a separate site in existing vocational college accommodation.

Israel Further steep increase in tuition fees

from our correspondent JERUSALEM
Maximum tuition fees in the universities will increase between 30 and 40 per cent in 1978, compared with 1976-77, when maximum fees rose by 83 per cent and average fees by about 70 per cent compared with the previous year.

However, relatively few students—those whose fees are paid in whole or part by Government ministries or as the result of wage agreements between employers and employees—will pay the full fee of 6,350 Israeli pounds (about £373). The vast majority will pay 5,350 Israeli pounds which means an increase of about 26 per cent for some and of 8.5 per cent for others.

The increases were set by the Government-recognized Navon Committee, so called after its independent chairman. The committee included two representatives each of the Government, the universities and the students. The only vote against the new fees was cast by the representative of the Ministry of Finance, who favoured a larger increase. His vote was probably influenced by the decision already taken by the



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Dogma of local control

The Labour Party's proposals for local government have been greeted with a furor of protest. It is generally felt that local government has been through enough in the past few years and does not need, indeed, cannot afford another major upheaval.

This feeling has tended to obscure some of the detail of the proposals. What has not escaped the public eye, however, are the heavy suggestions for the control of university, and four different proposals have been put forward, and bringing universities under some kind of local or regional control constitutes three of them.

This is generally thought to be very much an eleven hour addition to the consultation document, thrust forward by one or two members of the education subcommittee without full discussion. Be that as it may, what is the ostensible reason for them? Launching the document recently, Joan Minyard, MP, summed it up in one word: "Accountability".

That is a strange accusation at a time when universities have been completely hamstringing in their development through lack of money. Although once given their grants they may spend them as they wish, 90 per cent of the money is sewn up in salaries, wages and ongoing commitments, and the scope for decision-making is minimal.

Major building, which is the key to big developments, has not been possible for years, and when it is the University Grants Committee's intervention in university affairs is at its greatest. The UGC has the final word on whether or not they can go ahead.

One can argue that the UGC is not democratically elected, but in this it is no different from the Department of Education and Science which controls the rest of

higher education. As for local links, some universities are more enmeshed in their local community than others but all of them have connections such as adult education, arts centres, and use of facilities by the public. And it is UGC policy to strengthen those links. The new universities were specifically placed where there was a good degree of local enthusiasm for them.

But what is more important is how accountable universities should be to local needs, and what is even meant by accountability? Local children are unlikely to go to their local university as they are national institutions, drawing students from all over the country. Universities are provided by rate payers' money, but so for that matter is British Rail.

If what is meant is that universities should discriminate positively in favour of local working class children there is no guarantee that all over the country. Universities will bring this about. Universities can be elitist or socially responsible under the UGC, as polytechnics can be elitist or socially responsible under local authorities.

The endemic conflict between public accountability and institutional autonomy cannot be solved by some hotchpotch system of local control for universities completely at odds with their aims, practices and principles. A cautionary tale is provided by the National Health Service, under the new regional authorities which public interest has been submerged beneath layers of bureaucracy and special interests.

The Labour Party would do better to look at the present system of local control for polytechnics, which so far shows no signs of unworkability. The system is a system akin to that of universities, rather than vice versa.

Wanted: an arbitrator

Dr George Brossan, director of the North East London Polytechnic, has now decided to close the main social work training course run by the institution, putting in jeopardy the careers of 30 students. He acts at the behest of the committee of East London boroughs which maintain the polytechnic, and complains of being caught in a "power struggle" between the local authorities and the body responsible for professional training in social work.

His actions, for a time, the extraordinary feelings between the polytechnic, the boroughs and the Central Council for Education and Training in Social Work, and gives pause for consideration. Only this week, the Association of Polytechnic Teachers has published a document, bearing the "negative" role of local authorities in higher education: how far is the NELS story just to the mill of those who wish to remove the polytechnics from local authority control? Ho, far, by contrast, is there a danger of inflating the story into a clash of principle when at base it is a tale of personalities and stubbornness that an honest broker might have sorted out without trouble?

It is worth remembering the complicated sequence of events. Mr Samuel (later Sir) Vyas, an education officer for the London Borough of Newham, has applied in consecutive years to be admitted to the Certificate of Qualification in Social Work courses at NELP.

Mr Vyas, though he appears not to be disgraced, has spent some of his successive occasions, satisfied the staff teaching social work at the polytechnic that he is suitable for training. They have worked, according to CETSU, which prescribes that apply to other social work courses, that are subject to national validation, and have the ultimate legal sanction of the Privy Council. Mr Vyas' usefulness for the course appears to lie in the area of subjective judgments and assessments of "motivation".

Throughout, Mr Vyas's application

tion has had the backing of his superior education welfare officers (and his trade union branch) who have judged him, according to their own professional lights, suitable for training. The local authorities of Newham, Barking and Waltham Forest, through a joint education committee which controls the polytechnic, have backed the local authority. Past compromises, such as the polytechnic's agreeing to allocate a block of places on a course for suitable applicants from the education welfare departments of the boroughs, came to nothing this summer.

What are the principles involved? First, it should be said that a note of hard-headed compromise on either "side" of the dispute would have solved things. Why could Mr Vyas not have been encouraged to apply to another London training course. Why could Mr Vyas not have been admitted to the course; he might have failed, but his time would not have been entirely wasted.

There is an issue of principle involved? First, it should be said that a note of hard-headed compromise on either "side" of the dispute would have solved things. Why could Mr Vyas not have been encouraged to apply to another London training course. Why could Mr Vyas not have been admitted to the course; he might have failed, but his time would not have been entirely wasted.

Caught between apparently inevitable forces, the seemingly drastic action of Dr Brossan in closing the course is understandable. Before matters reach such a pass there was a room for mediation. But where was the arbitrator? It seems here there was a role for such an arbitrator: a member of the national association of local authorities—in this case for the Association of Metropolitan Authorities. It nominates a member of CETSU; Newham is a member of the AMA. Perhaps there is still scope for AMA mediation.

Throughout, Mr Vyas's application

LETTERS TO THE EDITOR

Marxism in academe

Sir,—In your piece "Marxism in universities: the need for tolerance" (*THE TIMES*, August 19) you remarked that the Polytechnic of North London, "the Grunwick of higher education", deserves less sympathy than the "unjustly maligned Open University".

These curious observations I press with only two comments: first, why choose PNL? Why not LSE, Middlesex, Essex or MCLP for a Grunwick badge? Secondly, why "unjustly maligned" of the OU? It is now several years since I drew attention, in a *TES* review, to the Marxist bias of one of its course texts, and my criticisms were not, so far as I know, rebutted. My then Pavlovian reflexes need verifying.

All that is of little importance. What is of importance is the way in which you, and the contributors to the correspondence on "Marxist bias" have—whether deliberately or through simple carelessness—cannot tell—missed the point.

I am surprised, for example, at the placidity with which you wrote "that such dissent is no longer always expressed in abstract and polite terms within well known if written rules of academic conduct, but sometimes erupts and occasionally even violently, in willful disregard of such rules, raises the pressure still further" (my italics). How many years of crude and violent repetition of "dissent" in order to convert *some* into *regularly* and *repeatedly*. Or perhaps you expect us to pretend that those crudities and violences never really happened.

You also wrote that "it is probably a mistake to place too much emphasis on the Marxist character of contemporary dissent, which it would have happened without Marx". You can tell that to the horse marines. We are not here talking about dissent as if it were nothing but a difference of opinion between two radicals. Nor are we talking about Marxism as if it were just another point of view. When I refer to Marxist bias in teaching am pointing to individual teachers in universities, polytechnics, technical colleges, and schools who push—in the sense of drug-pushers, albeit not in this case for cash—Marxism in some form, call it ultra-Leninism if you like, and in so doing deliberately create an atmosphere of explicit and overt hostility to anyone not of the ultra-Left.

Moreover, this is not just a matter of one academic "ism" versus another—social Darwinism, utilitarianism, structuralism, expressionism or what. When the Socialist Workers (laughable designation) announced recently that they are "classical Marxist" and reaffirming the essentially revolutionary element in their programme, the ultra-Left is for revolution—violent for preference—and is busily pushing it in the most generally significant and vulnerable parts of our society—the educational system, the mass communications system, vulgarly known as "the media".

This is what "Marxist bias in the universities" is about, and not whether "Marxism as a current of intellectual thought... has enriched history, economics, sociology, and a host of other academic disciplines" (enriched? a host?) which may well be true.

Any pattern of activity is given to the ultra-Left, and it is likely to be a centre of education—particularly of higher education—so the extent that it could, in time, be overtaken, closed down, or taken over. The various "causes" so identifiably taken up by student militants—academic democracy, grants, fees, Uster, women's

Engineering Ills
Sir,—Dr Pope, in his article (*THE TIMES*, July 22), puts his finger on most of the engineering ills and agrees with my remedies. But it should be remembered that in our department and women students are not irreconcilable.

Finally, applicants with good A levels do not shut all engineering ladders with an average A level score of 10.8 over several years. So the engineering picture is not all black.

Yours faithfully,
ADAM NEVILLE,
Head of the Department of Civil Engineering,
University of Leeds.

We have also been successful in attracting women to several areas

llh, overseas students, etc., etc.—are mere secondary camouflage from behind which the primary unsettling attacks can be pressed forward. The ultra-left's sincerity index is zero. Its mendacity index is infinity.

By a convenient coincidence you carried in your August 19 issue an article by a research student at Lancaster who wrote: "The (academic) elite group draws its tastes and values from established traditions. It is characterised by a narrow, rational and analytic mental model; an insistence on documented argument; an emphasis on regular hard work; the individual achievement of excellence; and the assumption of certain common scales of preference."

I am most grateful to the author student of Lancaster for this admirable formulation. I am in favour of it. I am against the other thing: an important element of the political wing of the other thing is precisely the ultra-left (or Marxist) infection of universities, colleges and schools of which we have been speaking. If you are willing to tolerate that, you are contributing to one process and one cult to see how the two processes eventually cutting of your own throat.

Yours faithfully,
TERENCE MILLER,
Director,
Polytechnic of North London.

Sir,—In belabouring the Polytechnic of North London, your article of August 19 fails to take seriously the perceptive comments you make elsewhere in the same article. You suggest that the radical movement has two elements: direct Marxism, and an underpinning in Marxist dogma. It has been suggested (in a paper by Eric Lipton, *The Panther and the Duck*) that what characterizes the student movement is precisely its lack of theory. Indeed one looks in vain for the Polytechnic of North London for an example of what is called higher education from the radical side. All too often what we are offered is simply "direct action".

As you imply, at its best the radical view raises important philosophical questions (not as you say about the nature of truth, but about the nature of truth). Truth here is connected with the Marxist concept of "praxis", where knowledge is expressed and gained through action: an ethical and philosophical question which can therefore be debated. But there is no debate with those for whom there are no philosophical problems; but "express their dissent crudely and sometimes violently in willful disregard of the rules of academic conduct" (your own description).

In other words, the nub of the problem is not as you suggest, can higher education institutions be intellectually tolerant? But rather how can institutions of higher education tolerate the intolerable (for direct action is intolerant by nature), and survive as bona fide higher education institutions at all. You are right therefore to distinguish the debates over the Centre for Contemporary Cultural Studies and the Open University from the problems faced by the Polytechnic of North London, for the first two are theoretical debates. At PNL, on the other hand, dissent by the radicals is characterized by the very absence of debate. Before resorting to willful disregard of the rules of academic conduct you need to be shown just how "undebated" action at PNL can be tolerated: action at PNL of higher education as a forum for open debate is still to retain its meaning.

Yours sincerely,
R. A. BARNETT,
Administration Assistant (Admission),
Polytechnic of North London.

now, 14 to 18 girls have been admitted annually to our first year. It seems then that at least our department and women students are not irreconcilable.

Finally, applicants with good A levels do not shut all engineering ladders with an average A level score of 10.8 over several years. So the engineering picture is not all black.

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Appointments at Cardiff

Sir,—I have only just seen leading article "How not to fill vacancies" (*THE TIMES*, August 19) the penultimate paragraph enunciating two "general principles" which should be observed in filling academic appointments: namely that "they should be advertised as widely as possible" and "choice should be as widely as possible".

As secretary to the College Council and to the two appointment committees in question, I feel it necessary to state that (as Mr Fowler advertises) both in the two columns and in those of the other nature of the appointments mentioned were in accordance with the college's normal practice, sent to all post-experience colleges, as well as full-time and part-time degree and post-graduate study.

Courses of higher education are thus offered not only by conventional universities, the Open University, polytechnics and colleges of further education, but by a wide range of other colleges—over 400 institutions in all.

This points to one reason why planning its development is a difficult task for Government. There is no single overall system of control for all of these institutions. The universities are funded through the University Grants Committee and each is autonomous, or self-governing. A complex, but negative, system of course control is operated in advanced further education, through the Regional Councils of Colleges (RACs) and HM Inspectorate (on behalf of the Secretary of State).

The planning problems implicit in this complex structure of financing and course approval are compounded by the system of course validation. Courses of colleges of further education are validated by the Secretary of State. In the public sector the approval of a university, or Council for National Academic Awards, or of the Technicians' Education Council, or of the Business Education Council, or of a Joint National Committee, can run well before a course can be accepted here as the basis of higher available places, or vice versa.

The only clear exception to this just statement have, of course, been in medical education, and demand for students in the vocational areas, professional institutions have sought to limit the provision of places in accordance with their own estimates of manpower need, for example, for architects.

In the late 1960s attempts were made to restrict the growth of medical schools. By the middle of the following decade it was argued that there must be considerable expansion to provide a supply of doctors adequate to a rising population. Before this expansion had been complete, some now argue that we have over-provided; the population is now static and may even fall somewhat.

This example well illustrates the difficulties of manpower-planning even for a public service, where many more of the factors determining the forward requirement are under governmental control than they ever can be in private industry.

Largely for planning reasons, I have also long favoured a general move to a consecutive rather than concurrent pattern of training. The introduction of the DipHE should facilitate this pattern of teaching, and the Secretary of State is unwilling (doubtless for economic reasons) to contemplate a universal four-year training period. The deferment of final commitment to a career such a pattern, and the reinforcement of my belief in its value.

Another advantage of two A-level entry will be that it will make simpler the projection of qualified student demand for higher education. Before this expansion had been complete, some now argue that we have over-provided; the population is now static and may even fall somewhat.

Teacher education provides a yet more telling example of the problem. Government woke late to the implications of the rising birth-rate of the late 1950s. After the crash expansion programme of the 1960s, it seemed to react slowly to a rapidly falling level of births. But there are good reasons for avoiding an over-hasty response they may be temporary, as we have seen, building and equipment provided and staff recruited to meet a rising demand for teachers may become redundant. Buildings and

potential subjects, it still would not follow the total number of places matched total qualified demand. There can always be an excess of qualified demand over education development.

This is the more serious in that the British system of higher education provision is based overtly on the Robbins principle that places shall be provided for those qualified for and seeking them. There is (in theory at least) no *numerous* education or ensuring a vigorous "weeding-out" of students at the end of their first or second course years. Nor have detailed projections of manpower requirements been accepted here as the basis of higher available places, or vice versa.

The remaining college-validated diplomas are being squeezed both by the lack of national recognition, and because students on them do not receive mandatory awards from their L.E.A.s.

It is thus virtually impossible to predict what courses will be running, and where, two or three years hence. It may be argued that the planning problem this system creates ought to be marginal, since most existing courses are run for only a few years, and a reasonable guessimate can be made of the number of new courses starting.

But this guessimate cannot be broken down with any precision into discipline areas, and the general picture is more chaotic. The period when the polytechnics are seeking to diversify provision into "general" (to use the term of the Secretary of State) higher education. The previous article (*THE TIMES*, May 1977), may rationalize the complex and financing of AFE, but many of the problems I have discussed will remain.

It should be noted that they affect the national as well as national level. While HM Inspectorate may have a record of new course proposals by discipline area (and since the general approval given to colleges of further education is seeking to diversify provision into "general" (to use the term of the Secretary of State) higher education. The previous article (*THE TIMES*, May 1977), may rationalize the complex and financing of AFE, but many of the problems I have discussed will remain.

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Where do they go from here? In the last of six articles on the current state of higher education, Gerry Fowler, MP, summarizes the case for more effective planning



Looking before leaping is only safe way forward

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This example well illustrates the difficulties of manpower-planning even for a public service, where many more of the factors determining the forward requirement are under governmental control than they ever can be in private industry.

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There is an acute shortage of places in the total is broken down between disciplines. For science and engineering in particular heavy capital investment may be required. Throughout the late 1960s and early 1970s Government sought to encourage recruitment to such disciplines by the provision of additional places. In 1968 the total for the following year was fixed at the balance of science and engineering to arts and social science places in the universities at 55:45.

Not enough students came forward to fill all the science and engineering places in higher education, and even when places were filled there were often not enough good students to permit much selection. This had been expected.

It was one factor forming the new polytechnics to expand in arts/social science areas. (This was not necessarily a contradiction of their purpose, since they were to be "applied" in orientation, not purely scientific.) And even at the university sector, which commonly had first choice of candidates, plans had to be revised, so that by the end of 1972 the new target for science/arts places was 53:47.

Predictably, though late in the day, there was an outcry about unfilled science places, led by the Prime Minister. Yet no Government can effectively pursue policies which are not obviously compatible, namely the observance of the "Robbins principle" and the pre-determination of how many students shall take courses in particular disciplines, unless action is simultaneously taken to influence both the rewards which students in those disciplines subsequently receive, and the school curriculum.

It may be doubted if even the £500 which employers can now pay students without any deduction from their grants (in addition to the standard £185 "disgrant") will have much effect by itself. The use which industry makes of engineering graduates, their average salaries and career prospects, will be more significant. This is considered yet again in the recent Department of Industry document *Industry, Education and Management*; it has been discussed for over a decade, but little has happened.

It is notorious that in the schools choices between subjects, which are effectively career choices, are often made too early, that most pupils do not continue science subjects long enough, and that few of the most able take practically-oriented subjects. I doubt if the Great Debate will of itself effect this pattern.

What might effect it would be a radical reform of the examination structure, for which we must await the Schools Council report on a replacement for A level. What certainly would be an infection of the upper secondary tradition, with common regulations making it easier for many to take "academic" and "practical" courses simultaneously. But that seems so far off as ever.

In the meantime, planning the development of higher education will continue to be fraught with difficulties. If the Onkes Committee leads to a national planning body, economic changes may have further education tradition, with common regulations making it easier for many to take "academic" and "practical" courses simultaneously. But that seems so far off as ever.

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The author is Labour MP for the Wirral, and a former Minister of State in the Department of Education and Science.

A power within a world of power



For media purposes groups such as farm workers "either cease to exist or are persistently misrepresented".

The Media are America by Jeremy Tunstall... ISBN 0 09 460260 3 and 461510 1

Until quite recently research on mass communication was dominated by the question "Who says what, to whom and with what effects?"

Then McLuhan taught us to add "how" questions to those we were already asking. Strengthened by some distinguished anthropological work on myth, symbolism and the elementary structures of meaning...

Even in this revised form, however, the approach and the work that resulted from it were oddly limited and abstracted. "Who says what, to whom, how and with what effects" was an improvement on the earlier question in that it did direct attention to the design of the ideological world of which modern societies mass communication is prescriptively the main architect.

It is this gap that contemporary research on mass communication, well represented by these three books, seeks to fill. The new effort is to understand mass communication as a structure of power constructed in a world of power.

Curran examines the struggle for the freedom of the press in mid-nineteenth-century England and shows how the forces of the free market proved a much more effective means of destroying the radical press than the forces of government had been.

Jeremy Tunstall traces the way in which commercial opportunism has enabled a handful of British, French and American news agencies to define news for two-thirds of the globe, and the way in which the strength of domestic economic forces such as RCA has enabled them to invade and conquer the television communication markets of Latin America, Africa and much of Asia.

Television takes up a large part of the lives of most young children, but when trying to answer the important question as to its impact and effect one has to take into account not only the presentation and content of the programme, but also how they are received by children in their own homes. This is an

ability to sell cheap to those who cannot afford to buy dear is an economic power which gives direct access to cultural power.

Philo and Beharrell remind us of the overt ideological conflict in 1926 and go on to reveal an identical covert contemporary one-sidedness which they suggest can be understood only by assuming that the BBC is itself a party to conflict not an impartial recorder and presenter of it.

In the new media sociology analysis starts, then, with the economic and political contexts and connections amid which power to communicate is appropriated and established. The role of the technology of mass communication and their funding in shaping specific inequalities of communication is examined. The internal and external social relations of media systems are more thoroughly explored.

Tunstall documents the ways in which American communication empires were constructed through exploitation of the marginally and dreams of non-English speaking Elliott, Smith and Golding in Mass Communication and Society examine the drive towards professionalism among employees at the middle levels of the communication industry and show it to be part of a struggle to determine who communicates what to whom—a political economy of mass communication which remorselessly restricts choice, contrives consensus and neutens culture.

Again, in blow-by-blow investigations of the handling of conflict by the mass media, contributors to Trade Unions and the Media suggest just what the values of balance and impartiality and newsworthiness mean for sections of the community. Ideas interests cannot be accommodated within the official balanced account of the status quo. For media purposes such groups either cease to exist or are persistently misrepresented—read Tony Marshall's desperate account of the media's treatment of farmworkers. In discovered in the export of mass communications technology and replaces the psychological orientation of selective perception to an understanding of the social meaning and effects of mass

audience about which comparatively little is known. Gwen Dunn has attempted to remedy this deficit. A primary school headteacher in whose experience of children's broadcast fellowship investigating the impact of television on pre-school children. She watched them watching television and talked to them about what they had seen; she also talked to their parents and teachers and to the programme makers.

The book poses a number of questions about the role that television can play in pre-school education at a time when the prospect has appeared. Mrs Dunn concludes that it has a lot to offer but with care by the adults who have responsibility for the child. Unfortunately, however, many children have come to adopt the stance of "audible wallpaper" looking without seeing, watching television without comprehending it. It is not difficult to comprehend the "state" with which one group of under-5s with clothes being washed in the window of a washing machine, when

communication. And research focuses on an attempt to explain selective presentation not as a merely cultural process but in terms of political, economic and technological imperatives as well.

Crudely advanced, Marxist arguments of this sort would carry little weight—they did not, for example, impress the Annan Committee. But the research and argument reported and gathered in these books is neither crude nor naive. Rather, they constitute the beginnings of a formidable reinterpretation of the social functions of mass communication. Taken together with the brilliant polemical intuitions of Hans Jansenberger and the large literature of meticulous case studies of media performance such as those at Leicester and Glasgow are building up is a reorientation that now commands serious attention. Especially as, once attended to, the mystery of the media so often turns out to be no mystery at all but an entirely obvious constituent of the patterns of communication which the institutions of communication and research is sometimes needed to establish the obvious.

One of the cruder attempts to grasp the political economy of the mass media is that of the "media imperialism" thesis. That thesis, advanced by Herbert Schiller in Mass Communication and American Culture and by Alan Wells in Pictorial Saturation of the World, sees the general saturation of mass communication systems outside Britain, France and the United States by the products of those metropolitan countries as part and parcel of a liberally constructed and deliberately constructed political, economic and military domination.

Tunstall, and Oliver Boyd-Barrett in a chapter in Mass Communication and Society, both address themselves to this thesis and both find it inadequate. Imperialist effects, design but by the natural and perhaps inevitable workings of an international market economy in which mass producers are very strong and so far as an imperial design can be discovered in the export of mass communications technology and replaces the psychological orientation of selective perception to an understanding of the social meaning and effects of mass

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export of media systems and content is both something less than media imperialism and something more. It is an assertion of commercial power which political power in such "colonies" as Mexico, Nigeria and the United Kingdom could in principle resist. The interesting question is why those who enjoy political power in these cultural colonies do not choose to resist.

In much the same spirit Elliott, Kumar and Tracey examine a range of occupations and organizations within the communication industries and find (of course) that the working practitioners of the media are of the class struggle but themselves as mediators of diverse pressures and opportunities; that on a day-to-day basis the ill-assorted requirements of commerce, politics and technology permit some measure of autonomy in what is communicated, how it can be invoked to counteract or reinforce powerful producers; low unit cost and some sectors of the industry can make production for minorities as profitable as production for majorities.

In the end the same sort of analysis reveals very clearly that while the structures of mass communication in Britain permit certain sorts of variation they also contain the variations that are possible within quite narrow limits—limited by the inconsistencies within a cluster of dominant interests. Thus, broadcasters like Yesterday's Men programme can get away with a barefacedly constructed and deliberately constructed political, economic and military domination.

Actually Yesterday's Men was something of an exception in that it evoked control through political power. The more normal constraint is economic. As Elliott concludes, "anyway, it is that variation occurs within a context that such variation as there is 'takes place against a ground base provided by the economic survival of (the) organizations of cultural production'". It is after all a market society.

Implications of her study are justifiably tentative about the conclusions that can be drawn from it. She is right to see the prevalence of television as only a part of the total use of the medium in wider arenas, some of her recommendations appear naive, but tasteless the "wallpaper" she wants to strip off is her own and old viewing habits for decorators to stay in business always win the day.

Philip Abrams

in sum, in this type of mass communication to find itself at a loss of agency of its structural content cultural analysis is especially clear in the case of Mass Communication where the discourse explicitly from social context to cultural meaning is noticeable softening of edges here; there is evidence that the argument is at once more opaque and within a narrower range of options.

The challenge, within the work of the rest of the sociology, is obviously to find the ways in which the cultural and political power in such "colonies" as Mexico, Nigeria and the United Kingdom could in principle resist. The interesting question is why those who enjoy political power in these cultural colonies do not choose to resist.

In much the same spirit Elliott, Kumar and Tracey examine a range of occupations and organizations within the communication industries and find (of course) that the working practitioners of the media are of the class struggle but themselves as mediators of diverse pressures and opportunities; that on a day-to-day basis the ill-assorted requirements of commerce, politics and technology permit some measure of autonomy in what is communicated, how it can be invoked to counteract or reinforce powerful producers; low unit cost and some sectors of the industry can make production for minorities as profitable as production for majorities.

Actually Yesterday's Men was something of an exception in that it evoked control through political power. The more normal constraint is economic. As Elliott concludes, "anyway, it is that variation occurs within a context that such variation as there is 'takes place against a ground base provided by the economic survival of (the) organizations of cultural production'". It is after all a market society.

Implications of her study are justifiably tentative about the conclusions that can be drawn from it. She is right to see the prevalence of television as only a part of the total use of the medium in wider arenas, some of her recommendations appear naive, but tasteless the "wallpaper" she wants to strip off is her own and old viewing habits for decorators to stay in business always win the day.

Philip Abrams

Haydn: Chronicle and Works, Volume III, Haydn in England 1791-1795

The appearance of volume three of H. C. Robbins Landon's long-awaited survey entitled Haydn: Chronicle and Works is a landmark in present-day scholarship. Though published "out-of-sequence" as the first book in the five-volume series promises well. It is the first fruits of many years' research and by a happy coincidence its publication date coincides with the centenary of the original work undertaken by the Austrian scholar F. F. Pohl.

Robbins Landon's association with Haydn's music began early. At the age of 21, in the year he graduated from the University, he founded the Haydn Society, which started to achieve an overall idea of the first complete edition of the composer's music. The project collapsed through lack of funds in 1951 but four years later his first book, The Symphonies of Joseph Haydn, appeared and immediately established him as an authority.

This new book is laid out on a generous scale; of its 640 pages, just over half are devoted to the so-called Chronicle. This section is equally generous, in addition to this essay an odd corner of contemporary historical material is specifically related to music. On the other side are a number of hand-drawn illustrations, including paintings by Hopper and Hardy as well as some previously unpublished views of eighteenth-century London. The second part of the volume is devoted to discussion of Haydn's works relating to the period 1791-1795 categorized according to genre.

The Chronicle begins on New Year's Day 1791 and ends on the day of Haydn's quinquennial association with England. The commentary is wide-ranging, bringing in much political and sociological detail by way of background. The less careful reader might feel that the opening 150 pages or so contain too many newspaper notices and other material of marginal interest, but thereafter new insights (often based on new evidence) are everywhere. In many good points the reader might feel that the book makes a case for the composer's suggestion that Symphony No. 54 was up-dated for London and well-reasoned, and the commentary concerning Haydn's life-long habit of Fox's contrapuntal technique.

Denis McCaldin

Peter B...

Chronicle

Harmonic change

Music in Transition: A Study of Tonal Expansion and Attonality 1900-1920 by Jim Samson Dent, £7.95 ISBN 0 460 04245 9

Dr Samson's new book is a substantial British treatment of a subject hitherto left to the Americans, and deserves comparison with George Perle's Serial Composition and Attonality (Faber, 1962) and Allen Forte's The Structure of Atonal Music (Yale, 1973).

The virtue of Samson's study, and why it deserves to be recommended to university teachers of music in the absence of anything better, is that it steers the seeker after atonality towards more composers and precise musical examples. If his book manages to provoke nothing more than recognition of Liszt, Busoni, Reger, Rimsky-Korsakov, Debussy, Ravel (and others) as part-time atonalists, that will do well enough for the time being; it will at least make it difficult for authority to continue to pretend that the innovations most vividly revealed in the works of Schoenberg and his school are isolated aberrations.

But if the author's choices are worthy, his treatment is not. Too much of his general commentary is nondescript and foggy and his material badly organized. He does not know what tonality is (not that anybody does who has tried to write about it). His explanations for tonally chromaticism as signifying "passion" and "disruption" are as risible today as they were years ago, and his italicized insistence that Busoni and Debussy remained tonal composers seems unnecessarily reactionary. One is impressed from time to time by an apt word or quotation, like the description of a dissonant chord in C as "a G as a tonic which happens to be of pressures diatonic, chromatic, modal—applied to it."

And what, having picked his way through the stone labyrinth of the author's total argument, does the reader finally discover? That "the human condition from nature in order that the letter can be better explored and, more commonly, exploited." The view of the past which is outlined in this book is obviously designed to provoke. There will be few scientists who will think the author for questioning their own creative—sometimes passionate—involvement in their chosen field. Social scientists and psychologists will be particularly incensed. Theologians will be quick to point to a long tradition (Isaiah, Paul, Harth) which emphasizes "revealed knowledge". On the whole, everyone as any kind of professional writer, student or professional expert will find something uncomfortable here.

Robn Maconie

Operatic characters

The Operas of Mozart by William Mann Cassell, £15.00 ISBN 0 304 29381 4

In describing his work as "this large, long, useful book" both for Mr Mann's adjective are apt. Of the 640 well-filled pages, nearly half are devoted to chapters on operas other than the most famous six or seven; we therefore have easy access to information and detail concerning the operas which have hitherto been difficult to obtain, while on the well-known operas Mann is helpful, thoughtful, provoking, occasionally provocative, and always thorough.

His scheme for each opera is to give the biographical background (generally without naming his sources), then to take the work number by number, mixing plot with musical information. This can sometimes be confusing and overdone; for example, a laud description of Eliza's aria: "Above the popping bassoons the violins shimmer furiously and the icy flute describes broken chords, allegro assai, avoiding direct reference to D minor until the voice enters. As the music swells in Eliza's heart so does the orchestral storm. She addresses the furies in wild vocal leaps slashed by full orchestral chords to which flute and horns contribute a white-hot strength." But each opera-chapter ends with a significant and substantial summary where Mann is at his most perceptive.

Kenneth Mobbs

Listeners

Music—Society—Education by Christopher Small John Calder, £6.95 ISBN 0 7145 3530 1

Now is the time when the arts centres are filling up their programmes for next season, the summer festivals are well under way and the music colleges and art schools have signed on next year's recruits. Into this naughtily world comes Mr Small's book, questioning the basic assumptions for all this activity.

It is a disturbing reflection that enormous sums of money are set aside to subsidize the arts, hundreds of jobs are made available in orchestras, theatres and broadcasting, yet "for the overwhelming majority art plays no essential part in life; it is a spare-time activity to be engaged in, if at all, when there is nothing more pressing to be done". The elitist response—thus it was, and always should be—has all but disappeared. The more accepted view, that in a healthy society the arts must be widely available irrespective of audience, becomes less tenable as costs mount. Those involved with the furthering of the arts tend to move towards martyrdom; what counts is the appeal of the product added by exaggerated publicity in the press notices, and skilful presentation by highly paid performers in the form of star performers.

Christopher Small maintains that it is precisely this notion of art as a product which has been our main western stumbling block, and that the error has been accepted, not just by today's teachers, performers and arts administrators, but by the artists themselves or, to narrow it down (as it were), post-Renaissance artists of the western civilization. They have shared in "the scientific western man which divorces the human condition from nature in order that the letter can be better explored and, more commonly, exploited."

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The most disturbed group may well be the professional musicians. They will question the lumping of the pieces into one period, 1600-1900 while focusing much of the attack against the nineteenth century's views. They will deride the artificial reduction of these 300 years of music to the one governing principle of "sonal logic" and the consequent claim that "each individual note or chord is meaningless in itself". This is not a criticism of the too-restrictive academic descriptions of music rather than of the music itself? Surprisingly, rock music is given relatively little coverage. Could Small's dislike of technology have blinded perception here, and is this also the reason why these "well-known" electronic musicians are given so little attention?

There is a comprehensive bibliography and well-assembled index. The music examples are beautifully drawn by Giles Hewlett-Cooper, and accurate except that Mann's personal interpretations of appoggiaturas, both written and implied, have been shown without Mozart's original notes for comparison.

Mann's mot juste is often from a foreign tongue, so the ideal reader is one with a grasp of languages or at least a good set of dictionaries, a basic knowledge of the well-known operas, a knowledge of classical musical forms and key progression, and easy access to the complete full scores. A quick read of the relevant chapter half an hour before attending a performance would in most cases serve little purpose and often be irrevocable.

The author will be the first to rejoice that Mozart's missing autograph full scores have come to light even though it means his book already needs revision.

Heath Lees

Paradox

Ravel by Roger Nichols Dent, £3.95 ISBN 0 460 03146 5

In Roger Nichols' latest book on a French composer, Ravel proves himself to be an ideal subject for the elegant format of the Master Musicians series. No sense of a quart in a plur port here, for the author is able to present a musical biography which, in far fewer words than any of the other English books (mostly translations) available, gives a clearly focused and thorough picture of this elusive personality, as well as a useful analysis of his musical style.

Though valuable in their way, some of the older numbers of this series now betray a somewhat unfashionable approach—Beethoven divided into three periods, for example—or suffer by cramming composers whose output is too prolific or personalities too complicated into the limited space available. Nichols' Ravel is, however, thoroughly up-to-date both in its approach and the material it draws upon. Biography and analysis blend unselfconsciously, the composer's personality wisely being treated with a somewhat tentative approach. Fact is carefully sifted from anecdote and sources are often left to speak for themselves, the various rumours and speculations being treated for what they are—possibilities. Psycho-analytical speculation and medical evidence are presented but not forced and this is to the biography's credit: the elusive can never be fully elucidated.

Throughout, sources and references are given so that whoever wants to go further will find no difficulty in picking up the threads. It is also to the book's credit that, while it fulfils the series ideal of elegant summaries, a paragraph on all major works, the author still finds time to present some interesting new evidence.

Plautus interested in Ravel should find much to fascinate them in the accounts of Ravel's piano playing books, a paragraph on teachers' reports and from Ravel himself. Especially welcome in this respect are Nichols' analyses of the librettos Ravel took with his own works, as deduced from memoirs and piano rolls.

On the analytical side, descriptions of the pieces are incorporated into the biography rather than as a separate section on style. With Ravel's modest but significant output this works well and the reader builds a clear picture of his harmonic and formal preoccupations and development.

Thus the book has a wide appeal as well as being an authoritative work with the useful appendices to which readers of the series will now be accustomed. Though he forces us into an extreme opinion of Ravel, Nichols persuasively dispels popular misconceptions with the help of well-documented memoirs. Ravel, claims the author, was no Swiss chocolate. He puts forward the view that the "dichotomy between Ravel the harmonist and Ravel the pianist, between the precise and the passionate, is one that has been widely and persistently misunderstood. In the central paradox of the composer's nature."

And with a book on Messiaen under his belt, the author now unexpectedly is drawn to make some interesting forward comparisons. On the other hand, the reader is expected to know what is meant when the various influences on Ravel are cited: Mussenet, Chabrier, the Russian "flair"; some may find too many demands in this respect. But that is a good thing, for the book's enthusiasm and clarity makes one want to approach more closely the music underrated composer and go deeper into the fascinating climate of the world which surrounded him, but in which, in a sense, he did not live.

Richard Langham Smith

Kenneth Mobbs

Ethereal philosophy

The Origins of Evil in Hindu Mythology by Wendy Doniger O'Flaherty... University of California Press, £11.25

This is the fascination of Hinduism... the possible solutions are there... affirms Dr O'Flaherty at the end of her search through a jungle of myths for answers to the problem of evil.

Unlike earlier authors in the series Professors Doherty and Doughty are not historians... Both gained their reputations as anthropologists concerned with the well-known Andean, Inca and Aztec cultures.

The Devil of Manichean and Judeo-Christian mythology is "seldom invoked" because Indian demons were ambivalent or even virtuous... The single, transcendent God of Job is far from the deities who pop in and out of human life.

As in her previous work Dr O'Flaherty ranges through Indian mythology with ease and charm... abandoning her earlier "modified structuralist technique" because the "strangely silent" myth of the gods is itself said to be "the gods' sacrifice with Purusha as their victim."

The complexity of the subject and strict limitations on space disappoint this hope... While emphasizing the continuing influence of the pre-colonial civilizations of the pre-colonial world, the authors rarely explain how this influences the Peruvian experience from other areas of Spanish America.

Although the book provides reconsiderations of the past... the overall product is a reputation in the view of the reviewer... to pay proper attention to the voices seems overwhelmed by the compression of so much national and metropolitan history.

During the past few years Jan Bazant, a member of the Centre of Historical Studies at the Colegio de México, has published important monographic studies of various aspects of modern Mexican history which have been invariably characterized by diligent scholarship and meticulous attention to detail.

The best section concerns the era of Porfirio Díaz from 1876 to 1910... and the emphasis is on more on economic development... the well-known industrial, mercantile and agricultural growth of the time is described and treated with pertinent statistical data.

The standard of each section varies... the least satisfactory being the second which is devoted to the years between independence and the Juárez reform... Here he does not give adequate emphasis to the religious and political conflict which it implied between conservative, clerical reactionaries and progressive advocates of a total secularization of society.

Glyn Daniel

Geoffrey Parrinder

Seen from the sierra

Peru: a Cultural History by Henry F. Doherty and Paul L. Doughty... Oxford University Press, £7.75 and £3.75

The earlier volumes in this series of Latin American histories have earned their outstanding reputations as a particular country's political, social and economic development.

Unlike earlier authors in the series Professors Doherty and Doughty are not historians... Both gained their reputations as anthropologists concerned with the well-known Andean, Inca and Aztec cultures.

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Mexican synthesis

A Concise History of Mexico from Hidalgo to Cárdenas, 1805-1840 by Jan Bazant... Cambridge University Press, £7.50 and £2.95

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Michael P. Costello

The 'science' of the future?

Evolution and Consciousness: Human Systemic Transitions by Eric Jantsch and Conrad W. Waddington... Addison-Wesley, £16.60 and £7.60

Waddington's main attention during the last few years before his death in 1975 was focused on certain aspects of what might be generally termed human ecology.

The book's weakness on these matters becomes more apparent in the chapters on the future and on the evolution of the man-made future... Errors are not uncommon: the title is rather misleading; the book has little to do with consciousness as a scientific or philosophical problem.

Although the book provides reconsiderations of the past... the overall product is a reputation in the view of the reviewer... to pay proper attention to the voices seems overwhelmed by the compression of so much national and metropolitan history.

Darwin and the art of discovery

The Collected Papers of Charles Darwin in 2 vols edited by Paul H. Barrett... Chicago University Press, £30.00

Most of Charles Darwin's working life is covered in these two volumes... The larger, more formal papers deal with his achievement, the smaller articles reflect work in progress in which he sought information, confirmation of his own observations or criticism.

The first of the hitherto uncollected papers from Darwin's 1841-1842 period is the first appearance of the theory of natural selection... The items are collected here for the first time, and this circumstance justifies this publication.

There is no doubt that, isolated as Darwin was, his invitations to visit and his professional gardeners... were put into the hands of his friend W. B. Tegetmeier.

Among this week's reviewers... Richard Langham Smith is lecturer in music at the University of Lancaster; Denis McCaldin is director of music at the University of Lancaster; R. M. Miller is lecturer in Latin American history at the University of Liverpool; Martin Pollock is professor emeritus of molecular biology at the University of Edinburgh.

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Stop the world

The Human Quality by Aurelio Peccei... Perseus, £6.50 and £3.25

This is the story of a deeply concerned person, angry at injustice, appalled by violence and waste, believing in human ability to shape the destiny of the world and impatient at the slowness of political processes.

The aim is to recognize the dynamic patterns of fluctuating, resilient and adaptive forces that have their own principles governing a series of continuously changing situations... It is this that is the basis of Prigogine's mathematical theory of fluctuation and development in natural systems generally.

It is assumed that the world is now in a unique cultural crisis and that the situation of all its peoples is worse than ever before... It is difficult to believe that the impo-

Pauline Marstrand

Although expressing belief in the ability of people to respond to changes in their conditions and to initiate them, and therefore believing in the need for a fundamental change in the economic and other institutions of society, he disbelieves in very few words the fact of unequal wealth and the likelihood that redistribution would be resisted and fails to mention exploitation of one economic class by another in any context.

In the end the cavalier treatment of the problem of ownership and the failure to grapple with the political actions necessary to achieve this participatory and responsible society is frustrating. Many have dreamt fine dreams, few have tried to map a path to achieve them. The Association for the Development of Latin America, the International Institute for Applied Systems Analysis, the Club of Rome and the Six Missions for Man kind are all very well, but they do not provide a way forward.

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New Titles from NFER

Educational Provision 16-19 by Judy Dean and Bruce Choppin... This comprehensive review of developments since 1964 in the area of education for 16-19 year-olds deals with two main aspects: what type of institution is most suitable and what sort of curriculum most appropriate. £2.30

The Changing University: A Report on the Staff Development in Universities Programme 1972-74 by David Warren Piper and Ron Glatter... Written by members of the University of London Teaching Methods Unit, this book is concerned with the various means through which those involved in higher education—both academics and administrators—are trained, and what general staff development procedures are used in higher education. £11.75

Reform, Reaction and Resources: the 3 Rs of Educational Planning by Miriam E. David... Reform in secondary, further and higher education is the subject of this book. The focus is on who participates—education officers, teachers, parents, civil servants, politicians—and how LSAs prepare for change. £7.70

One Year Courses in Colleges and Sixth Forms by Denis Vincent and Judy Dean... This book presents the initial findings of the NFER research project 'Alternatives to the traditional sixth form'. It is one of the few studies to deal with different patterns of 16-19 education and the first to consider in detail students other than traditional two-year sixth formers.

Educational Assessment by Karlheinz Ingenkamp... A critical review of trends in the educational assessment of pupils and students in Europe. It contains a list of 700 research studies, many of which are not available elsewhere. £4.95

NFER Publishing Company, Darville House, 2 Oxford Road East, Windsor, Berks., SL4 1DF



Battle of Fottlers: symbolic illumination, in The Biblethèque Nationale, Paris. From The Hundred Years War by Alan Lloyd, published by Harv-Davis, MacGibbon at £5.95.

Prehistoric past

Ireland in Prehistory by Michael Herity and George Eogan... Routledge & Kegan Paul, £8.95

Hillforts: Later Prehistoric Earthworks in Britain and Ireland edited by W. Harding... Academic Press, £24.00

It is over a quarter of a century since Dr Joseph Raftery, the present director of the National Museum of Ireland, published his Prehistoric Ireland: no general survey of prehistoric Ireland has appeared since 1951, and this present volume, Ireland in Prehistory, is welcome if only for its existence.

Ireland, north and south, is well supplied with prehistoric archaeological sites and those of us who live nearer the continent, or on the continent, are eager to know all we can in modern terms about how distant peoples of the European world, like the Celts, Orkney or Shetland, fared in prehistoric and pre-Roman times. Did it create, as did Malta, and southern Brittany, and the real ultima Thule of the Northern Scottish Isles, an individual and important semi-civilization? The answer is yes: New Grange and Irish gold provide an immediate and exciting answer.

Perhaps the initial disappointment in reading this book is that we are never moved by the achievements of prehistoric Ireland. Why do the authors not trumpet about the fact that the tombs of the Bend and the Boyne are among the finest and some of the earliest monuments of prehistoric architecture in the world. We have had so many books about the splendour and grandeur and greatness of EBS77 and Mesopotamia and Greece; why does this book not tell us of the brilliance of early Ireland?

This is probably because the authors see the prehistoric record of Ireland in terms of material artefacts and the technological picture of the past which was taught to them. Both archaeologists in the department of Dublin and have wide experience of fieldwork, research and teaching. I expected a great deal from this book: the authors have done well better. What they have given us is a dull but well-documented account of what is known about prehistoric Ireland. Chapters one to four dealing with the Stone Age and the collective tombs, are by Herity (as

is also chapter 11 entitled "Retrospect"). The remaining chapters, dealing with the Irish past from Beakers to the Iron Age, are by Eogan. The most unsatisfactory part of the book is its treatment of radiocarbon dates—fundamental for any study of the prehistory of any country. Only about half a dozen dates are mentioned. They are not given laboratory numbers and no clear evidence is provided as to whether they are calibrated or uncalibrated. A second edition of this book should have an appendix a list of all the known C14 dates from Ireland with the laboratory dates as bc and the calibrated calendar dates as bc.

Hillforts in their very great variety are among the most common prehistoric monuments in Britain: ranging in size from less than an acre to several hundred acres and in structure from simple vallate earthworks to vast multiple castles; they, like megaliths, are among the most interesting and notable of our surviving monuments from prehistory. The Ordnance Survey's Map of Southern Britain in the Iron Age lists 1,500 of them.

It was an excellent idea to bring together in one book the present ideas of archaeologists who have them in the last 40 years. They are all here: Christopher Hawkes, who reassesses the St Catharine's Hill, Winchester report of 1930. Gerald Dunning looks back at the 1931-34 excavations at Salmonbury, Dorset, and the Valley of the Boyne, 1938-1972. Of the modern generation of hillfort diggers there is also a re-orientation of the work at Blagbury Hill, Berkshire, and David Coombs on Man Tor, Dorsetshire, among others. There is also a re-evaluation of Traprain Law by George Tobey, an essay on a study of the fortified forts of Scotland by Susan MacKie, and an enlightening essay by Michael Avery on the hillforts of the British Isles: a Student's Introduction.

Hillfort studies have never been published in this form before; this is a compendium of the greatest value to all archaeologists and the our warmest thanks and congratulations. Christopher Hawkes's 1931 paper on "Hillforts in Antiquity" was a landmark in archaeology; 45 years later, we have another.

Classified Advertisements Index

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ELT Specialist in Instructional Materials

(Thailand)
Chulalongkorn University, Bangkok
To devise tests and develop general and ESP materials.
Qualifications: Graduates with relevant post-graduate qualification and at least 3 years' experience.
Salary: £5,210-£7,054 plus 10 per cent inducement allowance.
Benefits: Personal and children's allowances, free furnished accommodation, medical scheme, employer's portion of superannuation contribution, 75 TU 104.
Return fares are paid. Local contracts are guaranteed by the British Council. Please write briefly stating qualifications and length of appropriate experience, quoting relevant reference number and title of post, for further details and an application form to The British Council (Appointments), 65 Davies Street, London, W1V 2AA.

UNIVERSITY OF NATAL DEPARTMENT OF HISTORY AND POLITICAL SCIENCE DURBAN

LECTURER IN HISTORY

Applications are invited from suitably qualified persons for appointment to the post of Lecturer in History. The successful applicant will be required to teach Modern European History, together with Economic History, and to supervise honours students. A knowledge of Modern European History, together with Economic History, is essential. However, applicants qualified in other fields of History will also be considered favourably.

The successful applicant is to assume duty on the 1st January, 1978, or as soon as possible thereafter.

The salary scale attached to the post is R 20,200 to R 26,000 plus 10 per cent on basic salary.

The commencing salary will be dependent on the qualifications and/or experience of the successful applicant, in accordance with the University's salary scale, subject to Treasury regulations.

Applications should be sent to the Registrar, University of Natal, King George V Avenue, Durban, with whom applications should be lodged not later than 15th September 1977, quoting reference Adv.D.31/77.

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Applications are invited from suitably qualified persons for appointment to the post of Senior Lecturer in the Department of Civil Engineering. The successful applicant will be required to teach and supervise honours students in the field of Structural Steel Design, and to carry out research in the field of Structural Steel Design. A Ph.D. or equivalent qualification in the field of Structural Steel Design is essential. However, applicants qualified in other fields of Civil Engineering will also be considered favourably.

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UNIVERSITY OF SYDNEY THE THOMAS AND ETHEL MARY EWING SCHOLARSHIP IN EDUCATION

Applications are invited for the above-mentioned award from teachers who have completed a teacher training course at a Sydney Teachers' College. The scholarship value is £4,000-£4,500. It is available for research in education at an approved institution. The award is intended to encourage research in education and to bring back to the University of Sydney.

Applications should be sent to the Registrar, University of Sydney, New South Wales, with whom applications should be lodged not later than 15th September 1977.

UNIVERSITY OF SYDNEY THE THOMAS AND ETHEL MARY EWING SCHOLARSHIP IN EDUCATION

Applications are invited for the above-mentioned award from teachers who have completed a teacher training course at a Sydney Teachers' College. The scholarship value is £4,000-£4,500. It is available for research in education at an approved institution. The award is intended to encourage research in education and to bring back to the University of Sydney.

Applications should be sent to the Registrar, University of Sydney, New South Wales, with whom applications should be lodged not later than 15th September 1977.

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY RESEARCH FELLOWSHIPS

Applications are invited for five Research Fellowships in the Department of Electronic and Electrical Engineering for research in the areas indicated below. All candidates should possess a Ph.D. or equivalent qualification in the relevant field.

Adaptive Antennas ref 77/24EL
The application of modern techniques to antenna signal processing to mitigate the effects of noise and unwanted signals.

Electrical Machine Systems ref 77/25EL
The simulation of complex machine systems, involving multi-stage radar aids and other components.

Bioelectroref ref 77/26EL
The optimisation of the design of radio-frequency applicators for industrial heating processes.

High-speed Modems ref 77/27EL
The development and design of a 9600 bit-per-second modem for use over the existing telephone network, the modem employing pulse-code modulation and digital modulation techniques.

Power Electronics ref 77/28EL
The application of topological techniques to solid state devices in high-frequency inverters for motor drive applications.

The present salary for the post within the scale is £3,330-£5,670, with an increase of 10 per cent on basic salary to £3,663-£6,237, plus 10 per cent on basic salary to £4,029-£6,861, plus 10 per cent on basic salary to £4,432-£7,547, plus 10 per cent on basic salary to £4,875-£8,301, plus 10 per cent on basic salary to £5,362-£9,131, plus 10 per cent on basic salary to £5,895-£10,045, plus 10 per cent on basic salary to £6,477-£11,055, plus 10 per cent on basic salary to £7,107-£12,169, plus 10 per cent on basic salary to £7,784-£13,407, plus 10 per cent on basic salary to £8,507-£14,789, plus 10 per cent on basic salary to £9,276-£16,326, plus 10 per cent on basic salary to £10,091-£18,000, plus 10 per cent on basic salary to £10,952-£19,845, plus 10 per cent on basic salary to £11,860-£21,939, plus 10 per cent on basic salary to £12,815-£24,333, plus 10 per cent on basic salary to £13,818-£27,060, plus 10 per cent on basic salary to £14,869-£29,154, plus 10 per cent on basic salary to £15,969-£31,662, plus 10 per cent on basic salary to £17,118-£34,614, plus 10 per cent on basic salary to £18,317-£38,076, plus 10 per cent on basic salary to £19,566-£41,998, plus 10 per cent on basic salary to £20,865-£46,440, plus 10 per cent on basic salary to £22,214-£51,312, plus 10 per cent on basic salary to £23,613-£56,664, plus 10 per cent on basic salary to £25,062-£62,958, plus 10 per cent on basic salary to £26,561-£70,266, plus 10 per cent on basic salary to £28,110-£78,462, plus 10 per cent on basic salary to £29,709-£87,642, plus 10 per cent on basic salary to £31,358-£98,008, plus 10 per cent on basic salary to £33,057-£109,380, plus 10 per cent on basic salary to £34,806-£121,798, plus 10 per cent on basic salary to £36,605-£136,102, plus 10 per cent on basic salary to £38,454-£153,060, plus 10 per cent on basic salary to £40,353-£171,198, plus 10 per cent on basic salary to £42,302-£191,496, plus 10 per cent on basic salary to £44,301-£214,692, plus 10 per cent on basic salary to £46,350-£241,840, plus 10 per cent on basic salary to £48,449-£272,490, plus 10 per cent on basic salary to £50,598-£307,200, plus 10 per cent on basic salary to £52,797-£346,110, plus 10 per cent on basic salary to £55,046-£399,930, plus 10 per cent on basic salary to £57,345-£465,300, plus 10 per cent on basic salary to £59,694-£541,510, plus 10 per cent on basic salary to £62,093-£625,310, plus 10 per cent on basic salary to £64,542-£728,700, plus 10 per cent on basic salary to £67,041-£851,820, plus 10 per cent on basic salary to £69,590-£996,300, plus 10 per cent on basic salary to £72,189-£1,166,490, plus 10 per cent on basic salary to £74,838-£1,366,020, plus 10 per cent on basic salary to £77,537-£1,594,860, plus 10 per cent on basic salary to £80,286-£1,856,700, plus 10 per cent on basic salary to £83,085-£2,146,200, plus 10 per cent on basic salary to £85,934-£2,479,200, plus 10 per cent on basic salary to £88,833-£2,837,400, plus 10 per cent on basic salary to £91,782-£3,334,200, plus 10 per cent on basic salary to £94,781-£3,874,200, plus 10 per cent on basic salary to £97,830-£4,561,200, plus 10 per cent on basic salary to £100,929-£5,390,200, plus 10 per cent on basic salary to £104,078-£6,328,200, plus 10 per cent on basic salary to £107,277-£7,472,200, plus 10 per cent on basic salary to £110,526-£8,806,200, plus 10 per cent on basic salary to £113,825-£10,340,200, plus 10 per cent on basic salary to £117,174-£12,074,200, plus 10 per cent on basic salary to £120,573-£14,108,200, plus 10 per cent on basic salary to £124,022-£16,432,200, plus 10 per cent on basic salary to £127,521-£19,076,200, plus 10 per cent on basic salary to £131,070-£21,960,200, plus 10 per cent on basic salary to £134,669-£25,214,200, plus 10 per cent on basic salary to £138,318-£28,878,200, plus 10 per cent on basic salary to £142,017-£33,918,200, plus 10 per cent on basic salary to £145,766-£40,602,200, plus 10 per cent on basic salary to £149,565-£49,092,200, plus 10 per cent on basic salary to £153,414-£59,562,200, plus 10 per cent on basic salary to £157,313-£72,302,200, plus 10 per cent on basic salary to £161,262-£87,702,200, plus 10 per cent on basic salary to £165,261-£106,062,200, plus 10 per cent on basic salary to £169,310-£127,882,200, plus 10 per cent on basic salary to £173,409-£152,782,200, plus 10 per cent on basic salary to £177,558-£182,002,200, plus 10 per cent on basic salary to £181,757-£215,142,200, plus 10 per cent on basic salary to £186,006-£252,882,200, plus 10 per cent on basic salary to £190,305-£296,042,200, plus 10 per cent on basic salary to £194,654-£345,202,200, plus 10 per cent on basic salary to £199,053-£401,202,200, plus 10 per cent on basic salary to £203,502-£474,802,200, plus 10 per cent on basic salary to £208,001-£567,602,200, plus 10 per cent on basic salary to £212,550-£680,602,200, plus 10 per cent on basic salary to £217,149-£815,602,200, plus 10 per cent on basic salary to £221,798-£970,602,200, plus 10 per cent on basic salary to £226,497-£1,148,602,200, plus 10 per cent on basic salary to £231,246-£1,354,602,200, plus 10 per cent on basic salary to £236,045-£1,594,602,200, plus 10 per cent on basic salary to £240,894-£1,874,602,200, plus 10 per cent on basic salary to £245,793-£2,199,602,200, plus 10 per cent on basic salary to £250,742-£2,565,602,200, plus 10 per cent on basic salary to £255,741-£3,079,602,200, plus 10 per cent on basic salary to £260,790-£3,749,602,200, plus 10 per cent on basic salary to £265,889-£4,603,602,200, plus 10 per cent on basic salary to £271,038-£5,672,602,200, plus 10 per cent on basic salary to £276,237-£7,000,602,200, plus 10 per cent on basic salary to £281,486-£8,652,602,200, plus 10 per cent on basic salary to £286,785-£10,600,602,200, plus 10 per cent on basic salary to £292,134-£12,900,602,200, plus 10 per cent on basic salary to £297,533-£15,500,602,200, plus 10 per cent on basic salary to £302,982-£18,360,602,200, plus 10 per cent on basic salary to £308,481-£21,540,602,200, plus 10 per cent on basic salary to £314,030-£25,120,602,200, plus 10 per cent on basic salary to £319,629-£29,160,602,200, plus 10 per cent on basic salary to £325,278-£33,720,602,200, plus 10 per cent on basic salary to £330,977-£38,860,602,200, plus 10 per cent on basic salary to £336,726-£44,540,602,200, plus 10 per cent on basic salary to £342,525-£50,920,602,200, plus 10 per cent on basic salary to £348,374-£58,060,602,200, plus 10 per cent on basic salary to £354,273-£66,020,602,200, plus 10 per cent on basic salary to £360,222-£75,060,602,200, plus 10 per cent on basic salary to £366,221-£85,160,602,200, plus 10 per cent on basic salary to £372,270-£96,460,602,200, plus 10 per cent on basic salary to £378,369-£109,220,602,200, plus 10 per cent on basic salary to £384,518-£123,400,602,200, plus 10 per cent on basic salary to £390,717-£139,160,602,200, plus 10 per cent on basic salary to £396,966-£156,660,602,200, plus 10 per cent on basic salary to £403,265-£176,160,602,200, plus 10 per cent on basic salary to £409,614-£198,740,602,200, plus 10 per cent on basic salary to £416,013-£223,660,602,200, plus 10 per cent on basic salary to £422,462-£251,260,602,200, plus 10 per cent on basic salary to £428,961-£281,780,602,200, plus 10 per cent on basic salary to £435,510-£314,760,602,200, plus 10 per cent on basic salary to £442,109-£350,960,602,200, plus 10 per cent on basic salary to £448,758-£399,740,602,200, plus 10 per cent on basic salary to £455,457-£461,560,602,200, plus 10 per cent on basic salary to £462,206-£527,060,602,200, plus 10 per cent on basic salary to £469,005-£607,060,602,200, plus 10 per cent on basic salary to £475,854-£703,260,602,200, plus 10 per cent on basic salary to £482,753-£817,460,602,200, plus 10 per cent on basic salary to £489,702-£950,460,602,200, plus 10 per cent on basic salary to £496,701-£1,104,260,602,200, plus 10 per cent on basic salary to £503,750-£1,280,660,602,200, plus 10 per cent on basic salary to £510,849-£1,481,660,602,200, plus 10 per cent on basic salary to £517,998-£1,711,660,602,200, plus 10 per cent on basic salary to £525,197-£1,975,660,602,200, plus 10 per cent on basic salary to £532,446-£2,277,660,602,200, plus 10 per cent on basic salary to £539,745-£2,621,660,602,200, plus 10 per cent on basic salary to £547,094-£3,014,660,602,200, plus 10 per cent on basic salary to £554,493-£3,453,660,602,200, plus 10 per cent on basic salary to £561,942-£3,944,660,602,200, plus 10 per cent on basic salary to £569,441-£4,494,660,602,200, plus 10 per cent on basic salary to £576,990-£5,111,660,602,200, plus 10 per cent on basic salary to £584,589-£5,803,660,602,200, plus 10 per cent on basic salary to £592,238-£6,579,660,602,200, plus 10 per cent on basic salary to £600,937-£7,448,660,602,200, plus 10 per cent on basic salary to £608,686-£8,511,660,602,200, plus 10 per cent on basic salary to £616,485-£9,678,660,602,200, plus 10 per cent on basic salary to £624,334-£11,051,660,602,200, plus 10 per cent on basic salary to £632,233-£12,643,660,602,200, plus 10 per cent on basic salary to £640,182-£14,468,660,602,200, plus 10 per cent on basic salary to £648,181-£16,531,660,602,200, plus 10 per cent on basic salary to £656,230-£18,868,660,602,200, plus 10 per cent on basic salary to £664,329-£21,504,660,602,200, plus 10 per cent on basic salary to £672,478-£24,478,660,602,200, plus 10 per cent on basic salary to £680,677-£27,718,660,602,200, plus 10 per cent on basic salary to £688,926-£31,274,660,602,200, plus 10 per cent on basic salary to £697,225-£35,186,660,602,200, plus 10 per cent on basic salary to £705,574-£39,494,660,602,200, plus 10 per cent on basic salary to £713,973-£44,148,660,602,200, plus 10 per cent on basic salary to £722,422-£49,208,660,602,200, plus 10 per cent on basic salary to £730,921-£54,724,660,602,200, plus 10 per cent on basic salary to £739,470-£60,748,660,602,200, plus 10 per cent on basic salary to £748,069-£67,332,660,602,200, plus 10 per cent on basic salary to £756,718-£74,536,660,602,200, plus 10 per cent on basic salary to £765,417-£82,400,660,602,200, plus 10 per cent on basic salary to £774,166-£91,084,660,602,200, plus 10 per cent on basic salary to £782,965-£100,448,660,602,200, plus 10 per cent on basic salary to £791,814-£110,652,660,602,200, plus 10 per cent on basic salary to £800,713-£121,656,660,602,200, plus 10 per cent on basic salary to £809,662-£133,520,660,602,200, plus 10 per cent on basic salary to £818,661-£146,314,660,602,200, plus 10 per cent on basic salary to £827,710-£160,008,660,602,200, plus 10 per cent on basic salary to £836,809-£174,672,660,602,200, plus 10 per cent on basic salary to £845,958-£190,376,660,602,200, plus 10 per cent on basic salary to £855,157-£207,280,660,602,200, plus 10 per cent on basic salary to £864,406-£225,354,660,602,200, plus 10 per cent on basic salary to £873,705-£244,568,660,602,200, plus 10 per cent on basic salary to £883,054-£264,982,660,602,200, plus 10 per cent on basic salary to £892,453-£286,666,660,602,200, plus 10 per cent on basic salary to £901,902-£309,680,660,602,200, plus 10 per cent on basic salary to £911,401-£334,084,660,602,200, plus 10 per cent on basic salary to £920,950-£359,928,660,602,200, plus 10 per cent on basic salary to £930,549-£387,172,660,602,200, plus 10 per cent on basic salary to £940,198-£415,766,660,602,200, plus 10 per cent on basic salary to £949,897-£445,860,660,602,200, plus 10 per cent on basic salary to £959,646-£477,514,660,602,200, plus 10 per cent on basic salary to £969,445-£510,788,660,602,200, plus 10 per cent on basic salary to £979,294-£545,742,660,602,200, plus 10 per cent on basic salary to £989,193-£592,546,660,602,200, plus 10 per cent on basic salary to £999,142-£641,350,660,602,200, plus 10 per cent on basic salary to £1,009,141-£692,224,660,602,200, plus 10 per cent on basic salary to £1,019,190-£745,248,660,602,200, plus 10 per cent on basic salary to £1,029,289-£800,382,660,602,200, plus 10 per cent on basic salary to £1,039,438-£857,686,660,602,200, plus 10 per cent on basic salary to £1,049,637-£917,310,660,602,200, plus 10 per cent on basic salary to £1,059,886-£979,414,660,602,200, plus 10 per cent on basic salary to £1,070,185-£1,043,938,660,602,200, plus 10 per cent on basic salary to £1,080,534-£1,111,042,660,602,200, plus 10 per cent on basic salary to £1,090,933-£1,180,786,660,602,200, plus 10 per cent on basic salary to £1,101,382-£1,253,230,660,602,200, plus 10 per cent on basic salary to £1,111,881-£1,329,424,660,602,200, plus 10 per cent on basic salary to £1,122,430-£1,408,418,660,602,200, plus 10 per cent on basic salary to £1,133,029-£1,491,272,660,602,200, plus 10 per cent on basic salary to £1,143,678-£1,578,046,660,602,200, plus 10 per cent on basic salary to £1,154,377-£1,668,890,660,602,200, plus 10 per cent on basic salary to £1,165,126-£1,762,774,660,602,200, plus 10 per cent on basic salary to £1,175,925-£1,860,758,660,602,200, plus 10 per cent on basic salary to £1,186,774-£1,962,902,660,602,200, plus 10 per cent on basic salary to £1,197,673-£2,068,186,660,602,200, plus 10 per cent on basic salary to £1,208,622-£2,176,670,660,602,200, plus 10 per cent on basic salary to £1,219,621-£2,288,414,660,602,200, plus 10 per cent on basic salary to £1,230,670-£2,403,478,660,602,200, plus 10 per cent on basic salary to £1,241,769-£2,521,822,660,602,200, plus 10 per cent on basic salary to £1,252,918-£2,643,526,660,602,200, plus 10 per cent on basic salary to £1,264,117-£2,768,640,660,602,200, plus 10 per cent on basic salary to £1,275,366-£2,897,224,660,602,200, plus 10 per cent on basic salary to £1,286,665-£3,029,338,660,602,200, plus 10 per cent on basic salary to £1,298,014-£3,164,042,660,602,200, plus 10 per cent on basic salary to £1,309,413-£3,302,406,660,602,200, plus 10 per cent on basic salary to £1,320,862-£3,443,590,660,602,200, plus 10 per cent on basic salary to £1,332,361-£3,587,554,660,602,200, plus 10 per cent on basic salary to £1,343,910-£3,734,438,660,602,200, plus 10 per cent on basic salary to £1,355,509-£3,884,312,660,602,200, plus 10 per cent on basic salary to £1,367,158-£4,037,246,660,602,200, plus 10 per cent on basic salary to £1,378,857-£4,193,290,660,602,200, plus 10 per cent on basic salary to £1,390,606-£4,352,514,660,602,200, plus 10 per cent on basic salary to £1,402,405-£4,514,978,660,602,200, plus 10 per cent on basic salary to £1,414,254-£4,679,642,660,602,200, plus 10 per cent on basic salary to £1,426,153-£4,842,556,660,602,200, plus 10 per cent on basic salary to £1,438,102-£5,013,770,660,602,200, plus 10 per cent on basic salary to £1,450,101-£5,182,354,660,602,200, plus 10 per cent on basic salary to £1,462,150-£5,359,458,660,602,200, plus 10 per cent on basic salary to £1,474,249-£5,544,142,660,602,200, plus 10 per cent on basic salary to £1,486,398-£5,736,566,660,602,200, plus 10 per cent on basic salary to £1,498,497-£5,936,780,660,602,200, plus 10 per cent on basic salary to £1,510,646-£6,144,854,660,602,200, plus 10 per cent on basic salary to £1,522,845-£6,360,838,660,602,200, plus 10 per cent on basic salary to £1,535,094-£6,584,792,660,602,200, plus 10 per cent on basic salary to £1,547,343-£6,816,776,660,602,200, plus 10 per cent on basic salary to £1,559,592-£7,056,850,660,602,200, plus 10 per cent on basic salary to £1,571,841-£7,305,074,660,602,200, plus 10 per cent on basic salary to £1,584,140-£7,561,508,660,602,200, plus 10 per cent on basic salary to £1,596,389-£7,825,312,660,602,200, plus 10 per cent on basic salary to £1,608,638-£8,097,546,660,602,200, plus 10 per cent on basic salary to £1,620,887-£8,378,350,660,602,200, plus 10 per cent on basic salary to £1,633,136-£8,667,784,660,602,200, plus 10 per cent on basic salary to £1,645,385-£8,965,908,660,602,200, plus 10 per cent on basic salary to £1,657,634-£9,272,782,660,602,200, plus 10 per cent on basic salary to £1,669,883-£9,588,466,660,602,200, plus 10 per cent on basic salary to £1,682,132-£9,913,110,660,602,200, plus 10 per cent on basic salary to £1,694,381-£10,246,784,660,602,200, plus 10 per cent on basic salary to £1,706,630-£10,589,548,660,602,200, plus 10 per cent on basic salary to £1,718,879-£10,941,462,660,602,200, plus 10 per cent on basic salary to £1,731,128-£11,301,676,660,602,200, plus 10 per cent on basic salary to £1,743,377-£11,670,340,660,602,200, plus 10 per cent on basic salary to £1,755,626-£12,047,714,660,602,200, plus 10 per cent on basic salary to £1,767,875-£12,433,938,660,602,200, plus 10 per cent on basic salary to £1,780,124-£12,829,162,660,602,200, plus 10 per cent on basic salary to £1,792,373-£13,233,446,660,602,200, plus 10 per cent on basic salary to £1,804,622-£13,645,930,660,602,200, plus 10 per cent on basic salary to £1,816,871-£14,066,674,660,602,200, plus 10 per cent on basic salary to £1,829,120-£14,495,718,660,602,200, plus 10 per cent on basic salary to £1,841,369-£14,933,222,660,602,200, plus 10 per cent on basic salary to £1,853,618-£15,379,336,660,602,200, plus 10 per cent on basic salary to £1,865,867-£15,834,110,660,602,200, plus 10 per cent on basic salary to £1,878,116-£16,297,704,660,602,200, plus 10 per cent on basic salary to £1,890,365-£16,769,178,660,602,200, plus 10 per cent on basic salary to £1,902,614-£17,248,602,660,602,200, plus 10 per cent on basic salary to £1,914,863-

Polytechnics continued

The Polytechnic of North London

Faculty of Social Studies
Head of the Department of Sociology

Applications are invited from persons with good academic qualifications in a field of the Social Sciences for the post of Head of the Department of Sociology. The Department offers a B.Sc. Sociology Honours Degree and has 23 full-time academic staff, including 1 research assistant. The Department is also concerned with the development of Sociology courses elsewhere in the Polytechnic.

ULSTER COLLEGE
THE NORTHERN IRELAND POLYTECHNIC
Faculty of Technology

LECTURER II - CIVIL ENGINEERING STRUCTURAL DESIGN

Salary Scale, £3,744 to £5,885. Applicants must be graduates, who are preferably chartered civil or structural engineers. Sound experience in structural and mechanical design is essential. The post is full-time and involves a heavy workload. The post holder will be responsible for the design of structures and the supervision of students. The post holder will also be responsible for the design of structures and the supervision of students.

CITY OF LONDON
THE POLYTECHNIC
MANAGEMENT SCIENCE UNIT

RESEARCH ASSISTANT THE ORDERING OF MACHINES. The City of London Polytechnic has a vacancy for a Research Assistant in the Management Science Unit. The post holder will be responsible for the design of machines and the supervision of students. The post holder will also be responsible for the design of machines and the supervision of students.

MANCHESTER
THE POLYTECHNIC
FACULTY OF MANAGEMENT AND BUSINESS

SENIOR LECTURER IN MANAGEMENT STUDIES. Applicants should be able to teach in the following areas: management studies, business administration, and management studies. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

MANCHESTER
THE POLYTECHNIC
FACULTY OF MANAGEMENT AND BUSINESS

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FACULTY OF MANAGEMENT AND BUSINESS

SENIOR LECTURER IN MANAGEMENT STUDIES. Applicants should be able to teach in the following areas: management studies, business administration, and management studies. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

Research Posts

THE POLYTECHNIC OF NORTH LONDON

RESEARCH ASSISTANT. The Faculty wishes to appoint a Research Assistant in the Faculty of Social Studies. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

SOUTHAMPTON
THE UNIVERSITY

RESEARCH ASSISTANT. Applications are invited for a Research Assistant in the Faculty of Science. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

SOUTHAMPTON
THE UNIVERSITY

RESEARCH ASSISTANT. Applications are invited for a Research Assistant in the Faculty of Science. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

BIRMINGHAM
THE QUEEN'S COLLEGE

RESEARCH ASSISTANT. Applications are invited for a Research Assistant in the Faculty of Science. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

CHEESHIRE
GUYE AND ALABASTER
EDUCATION

RESEARCH ASSISTANT. Applications are invited for a Research Assistant in the Faculty of Science. The post holder will be responsible for the design of courses and the supervision of students. The post holder will also be responsible for the design of courses and the supervision of students.

Overseas

Western Australian Institute of Technology
LIBRARY STUDIES
HEAD OF DEPARTMENT

The Department fulfils an important role in Western Australia as the only two courses recognised by the Library Association of Australia, a Bachelor of Applied Science and a Graduate Diploma in Library Studies. The Head is expected to provide academic and administrative leadership within the Department and to cultivate links with the community and the profession.

Conditions Include: Salary £519,043 or £519,658 or £519,6273 (Salaries quoted at June 1 rate of exchange £Stg .6390 to A\$16). Annual, Long Service and Study Leave.

A choice of superannuation is available if required, including scheme similar to F.S.S.U. Fares for family plus assistance for removal expenses and temporary accommodation are payable to appointees.

Applications: Detailed applications including a curriculum vitae and names of addresses of three referees should be submitted not later than 30 September 1977 to the Migration Liaison Officer, Western Australia House, 115 Strand, London WC2R 0AJ. A brochure containing full information may be obtained from the above address.

When applying please quote reference HE 5001.

Administration

SURREY
THE UNIVERSITY
ADMINISTRATIVE OFFICER

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A complete list of the special book numbers for 1977 is available from the Advertisement Manager, The Times Higher Education Supplement, PO Box 7, New Reading House, 115 Strand, London WC2R 0AJ.

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